REPORT

OF THE

LAND REVENUE REFORMS COMMITTEE

PART II— Volumes (iii), (iv) & (v)



K. N. ANANTA RAMAN, I. C. S. Chairman.

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REPORT OF THE

LAND REVENUE REFORMS COMMITTEE PART II-Volume (iii)

बन्धपंत्र नगरी

PART II.

INTRODUCTION.

Even after the integration of the Telangana region of the erstwhile Hyderabad State with the former Andhra State, effected on the 1st November 1956, Andhra Pradesh continues to have two different land revenue systems. Disparities in the pitch of land revenue assessment are believed to exist between the two regions of the State as also between the different tracts settled at different periods. It has been mentioned in chapter I of this report that the Government have appointed this Committee to examine the existing systems, rates of land revenue assessment and irrigation charges obtaining in the various regions of the State and to make suitable recommendations for their rationalization. In chapter II a picture of the resources of the Andhra Pradesh has been given with the historical background of the land revenue systems. The principles and methods followed during the previous settlements and resettlements in Andhra and Telangana regions have been explained in chapters III and IV respectively and the differences between the two systems have been mentioned. Even though the basic principles are similar in both the systems, yet there is some difference in their application. Both in Andhra and Telangana, settlements have been carried out taking many factors into consideration. In Andhra, soils have been analysed into classes and sorts and the rates of assessment called 'tarams' have been fixed on the basis of yields. Villages have been divided into groups with reference to the transport facilities and the situation of the markets. In Telangana, besides the composition, the texture and the depth of the soils, the distance of the fields from the village have also been taken into consideration in fixing the assessment. The yield from the lands, the cost of cultivation and the net income from the lands have been calculated in both the cases. While in Andhra, the assessment has a direct bearing on the net yields thus arrived at, in Telangana they are taken only for purposes of comparison in fixing the assessments which never exceeded half of the net income to the ryot. It is necessary to rationalize the two systems following the principles of uniformity, equity and simplicity. Similarly in chapters V and VI the methods of irrigation followed in both the regions and a brief summary of rules and orders relating to the levy of consolidated wet assessments and water-rates in all the districts have been given. In chapter VII an attempt has also been made to assess the incidence of taxes other than land assessment on the farmer. The cost of cultivation and economics of farming are dealt with in chapter VIII.

Part II of our report contains our recommendations and suggestions for rationalizing the levy of assessments and water charges and other allied matters.

CHAPTER IX.

Role of Developmental Activities.

During our tours in the State for studying the problems connected with land assessment, irrigation and agriculture, several representations were received from the agriculturists about deterioration in cattle wealth, difficulties in obtaining green manure, lack of adequate credit facilities, supply of good seeds, non-availability in adequate quantities of fertilizers, pesticides, iron, fuel, agricultural implements, pumping sets and accessories to oil engines used for pumping water. etc. The farmers also represented that even when some of these materials had been supplied, the supply was often not in time and that consequently the benefit derived was little. Everywhere the agriculturists linked up all these matters with land revenue and water rates, and urged that the inadequacy of these facilities has resulted in low returns from the agricultural lands. These factors, they represented, have a direct bearing on the costs of cultivation, the yields and the income to the ryot, which in their turn influence the pitch of assessments on land and also the irrigation charges. We agreed with them and considered it necessary to ascertain the views of the public in general on these matters and included questions relevant to the developmental activities in parts V and VI of the questionnaire issued by us. In this chapter we have dealt with the role of developmental activities and given our suggestions to promote the welfare and the prosperity of the rvots after analysing the answers received.

Paragraph 1.—Existing difficulties in obtaining green leaf manure in adequate quantities from forests.

The Chief Conservator of Forests is of opinion that all species in a forest cannot be used as green manure with equal advantage, that only leaves of some species may be more useful and that it is not desirable to allow the ryots to pick, and choose the leaves as there is a likelihood of indiscriminate

defoliation on the whole. He is not in favour of removing green leaf from the forests for use as green manure on the ground that—

- (1) leaves of species usually found in the forests are not very useful as green manure;
 - (2) that the forests will be denuded and
- (3) the soil in the forests will get gradually impoverished—as the dry and decaying leaves which contribute to the humus will diminish largely in quantity if leaves are removed, and taken away even when they are green.

The ryots of Chittoor district, however, were quite emphatic in this matter and said that they have been using every kind of leaf from the forest and that it gave them good results. Shri M. S. Sivaraman, I.C.S., when he was Director of Agriculture, Madras, initiated an intensive propaganda that green leaves of Sesbania and Glyricidia are very useful as green manure.

- 2. We feel that the opinion of the Chief Conservator of Forests about the value of green leaf as manure cannot be accepted in toto—though his arguments against large scale removal of green foliage from forests has to be given due weight.
- 3. A summary of the answers received by the officials and non-officials is given below:—

Twelve officials and nine non-officials have stated that no difficulty is experienced in obtaining the permits from the Forests Officers to get the green leaves from the forests while 9 officials and 29 non-officials stated that there are difficulties in obtaining permits from the Forests Officers. One official said that in order to get the permit, it will take at least six months. Three other officials stated that they must go to the taluk headquarters to get the permits thereby incurring heavy transport charges. Another non-official stated that he was finding it difficult to get the permits because the authority of granting them is not working under the Tahsildar. One official has suggested that the power to grant permits, must be in the hands of Revenue Department. One non-official said that the permission should be given at a short interval and local peo-

ple may be entrusted on commission basis as was done previously. Two officials and three non-officials in Guntur district have stated that there are no forests and even if there are, they are not big ones. In Cuddapah there is no demand for green manure leaves. Two officials and four non-officials of East Godavari district stated that generally permits are not sought Some of the officials and non-officials suggested that green manure leaves should be brought from forests and sold to the ryots at their fields at subsidized rates during the season and that water facilities should be created for growing green manure crop in the fields, which are at the tail end of the source. All the officals and non-officials stated that the common green manure crops cultivated are Indigo, Sunhemp, Pillipesara and Daincha. Steps may be taken to popularize the practice of green manuring wherever feasible. Seeds of green manure crop should be supplied free.

- 4. The Committee considers that the demand for green leaf from the forests is mostly a local problem. The ryots may be allowed to gather green leaves from the coupes which are proposed to be auctioned in the next year so that the defoliation might not affect the growth. If the Forest Department apprehend defoliation and damage, we would recommend that green leaf manure may be gathered by the Department and sold to villagers at a reasonable price. The Chief Conservator of Forests it may be remembered, had his own doubts about the value of green manure. His views on the question of defoliation and the consequent deleterious effect on the forests have to be given due weight. The only question is whether we cannot strike a balance between the needs of the ryot on one hand, and that of the forest itself on the other and whether a certain amount of defoliation cannot be permitted. Conditions vary from district to district and from forest to forest. Just as a little donation of one's blood is not harmful, trimming of the hedges and prunning of shrubs is not only not harmful, but actually beneficial, some areas in forest could also stand a little defoliation. The Chief Conservator of Forests should certainly be allowed to say the last word about the closing of any particular area for the supply of green leave for manure, but exceptions could be made.
- 5. The Committee is unanimously of opinion that the ultimate solution should be to grow one's own green manure and to utilize the available green leaf to the maximum extent. The

Forest Department should be liberal in granting permits by issuing them in lump sum to Panchayats for distribution among the needy. The removals, however, should be under the strict supervision of the Officers of the Forest Department.

Paragraph 2.—Promoting agricultural prosperity and its effect on the taxable capacity of the ryot.

Improved seeds.—Improved seeds are multiplied and distributed through departmental depots at subsidized rates. Several strains suitable for different tracts are evolved in the research stations and they are released for extensive use after establishing their superiority over the local seed. These seeds generally give 10 to 15 per cent increased yields over the locals. Seeds are also carried to the interior villages through departmental lerries and distributed to the cultivators without any extra charge. To cope with the increased demand for improved seeds, seed farms and seed stores are being organized one in each Development Block to meet the requirements of Block-villages. The use of good seed is very important and with each variety should be distributed pamphlets containing detailed instructions for its proper use. Each variety has its own requirements of water and fertilizer. Time of planting, spacing and, therefore, seed rate would be different for each strain. All these details must be worked out for each improved strain for each area, before seeking to distribute the same. Quality of the seed is very important and should not be sacrificed for quantity. A good seed naturally spreads and hence small quantities of genuinely good seed distributed among a large number of progressive and enterprising farmers each year will feed the rest of the community.

Fertilizers.—Fertilizers are being distributed through the co-operative depots and from departmental godowns located at various centres, so as to be within easy reach of cultivators. There are altogether 248 godowns functioning in Telangana where fertilizers are stocked and distributed to cultivators by the department. In the Andhra area, the distribution of ammonium sulphate is made through Co-operative Societies and 334 depots have been opened by them so far. Fertilizers are distributed to cultivators both on cash as well as on credit. Taccavi loans for the purchase of chemical fertilizers are sanctioned under a special scheme called 'Intensive Manuring Scheme', in the Andhra area. In this scheme, loans are granted to cultivators up to a maximum of Rs. 500 per individual. In

the Telangana area, Taccavi loans are sanctioned for the purchase of fertilizers by the Revenue Department, on the recommendations of the officers of the Agricultural Department. In order to enable the cultivators to make proper use of fertilizers, a pamphlet has been prepared on the dosage, time and method of application of various fertilizers that are used in the State. It is proposed to print this pamphlet for distribution on a large scale to the cultivators as well as to Village Level Workers and Extension Officers in Agriculture, etc. The quantity of fertilizers supplied should be on the basis of the extent of land that a particular ryot owns. Cow-dung and rice-husk are being used as fuel in some of the villages as they are cheap and economical. Cow-dung and compost manure have much more and probably lasting fertilizing value than many artificial fertilizers. In our villages it is the general practice for cultivators to use fertilizers only for the main crop.

Newer fertilizers are being put in the market but their effect on all the crops of the State have not been worked out. It is a serious matter that the fertilizer bag does not carry with it any detailed instructions as to its use. Expansion of irrigation is making heavy demands on our fertilizer resources and shortage in supply is holding back progress. More production can only be built on the basis of larger supplies of plant nutrients and chemical fertilizers are the main source. However important green manuring and conservation of yard manure may be, it is impossible for us to obtain all our requirements of plant nutrients from these sources. We cannot over-emphasize the need to augment supplies of chemical manures.

With regard to rules governing the supply of these on credit, there is an urgent need to revise them and make them applicable to the whole State.

Cement.—The State Government allots a specific quota for agricultural purposes and permits are issued by the Director of Controlled Commodities on the recommendation of the Officers of the Agricultural Department. Cement is available in liberal quantities and cultivators are not experiencing any difficulty in obtaining their requirements at present, but when there is scarcity, the supplies have been extremely inadequate to the cultivators.

Pesticides.—Basic stocks of pesticides of approved specifications and quality required for the area are stocked in the departmental depots. The pesticides are at present obtained through the Central Stores Purchase Department. The annual consumption of pesticides is approximately Rs. 4 lakhs. In Andhra area pesticides are not sold at 50 per cent concessional rates while in Telangana pesticides continue to be sold at 50 per cent concessional rates. Proposals are under consideration to revive the concessional sale of pesticides in Andhra region also. There is no scarcity of pesticides and we were told that if used they give sure relief in the case of several pests. We are, however, not able to reconcile this with the statement of ryots even in Guntur that pest on groundnut is causing havoc. Obviously much remains to be done by the scientists or else a ryot in Guntur would not fail to use a readily available pesticide if he could positively check the pest on his all important groundnut crop.

Similar was the statement of a ryot and a legislator in Kurnool district who offered to pay the salary of a District Agricultural Officer, plus all costs if only he can stay and control pests and dieases on his chillies.

We, therefore, suggest that more scientific talent must be concentrated on this problem and more applied research carried out to precisely determine the dosages and time of application, etc. No effort should be spared to make plant protection methods a success.

Fuel.—Coal is required by the tobacco growers for curing their tobacco leaf in barns. Supplies are obtained from the Director of Controlled Commodities on the recommendations of the Central Excise Officials.

Fuel oils.—The agriculturists obtain their requirements from the dealers in the local market without difficulty as there are several agencies supplying these oils. We learn there was an attempt on the part of farmers to get their requirements exempted from excise duties and sales taxes but they have not borne fruit.

Iron.—Specific quota is allotted by the Director of Controlled Commodities for agricultural purposes and permits are issued by him to individual applicants on the recommendations of the Officers of the Agricultural Department. To make implements readily availabe to cultivators, the department has encouraged local fabricators to undertake the fabrication and

supply of indigenous implements to suit the requirements of the local cultivators. Regular quotas of iron are arranged to these fabricators for manufacturing implements. There are at present 169 fabricators, 75 in Andhra and 94 in Telangana regions.

Improved implements are also supplied to the agriculturists under hire-purchase system repayable in easy annual instalments. However, such implements are very uncommon in the villages eventhough the supply is adequate with reference to the present demand; but Agricultural Extension Services must create further demands. Moreover efficiency of tools is a sure indication of the progress of the people and measured from this angle we are still primitive.

We consider the wooden country plough and the country bullock cart, without either a machined axle or even a ring oil bearing or a grease cup, as symbols of the backwardness of our agriculture and as long as this continues, so long will production and productivity and, therefore, the taxable capacity remain to the lowest ebb.

Tractors and pumpsets.—Despite the fact that large number of ryots are either not in need of tractors or can afford to buy them yet the demand far exceeds the supply. Tractors are not being imported but there are operations like reclamation, ploughing, grading, levelling, etc., which can be done well and more economically by tractors alone with appropriate attachments.

Regarding pumpsets the same condition prevails and indigenous manufacture is not keeping pace with demand and is not even able to maintain quality. We believe it is a wrong policy to allow quality to deteriorate and make farmers suffer. It may be better to subsidize the natural industry and enable them to compete with imported material in quality and workmanship. We are interested that the Indian farmer technically backward—as he is—should not be further burdened with less efficient equipment.

Loans are granted by Government, to encourage intending cultivators to purchase the machinery of their choice from local firms.

2. A summary of replies given by officials and non-officials in regard to the agricultural supplies is as follows:—

Six officials stated that the agricultural supplies are not available, whereas four officials and four non-officials have stated that they are not available in time and at reasonable prices with some exceptions. One non-official stated that only fertilizers and manures are available in time, but not iron, cement and pumpsets. One official said that the fuel oils are only available in big taluk headquarters towns. One nonofficial stated that the rates of pumpsets are not reasonable and that the number of sets made available is not adequate. Three officials and 13 non-officials have stated that there is much black-marketing in these commodities and they have stated that the supply of these commodities should be increased. Seven officials and four non-officials, stated that cement and iron are not available, and if they are available they are available only to the influential ryots, but not to all. One non-official stated that the agricultural supplies are available only to the rich people and only to 1 per cent of the poor.

- 3. The impression which the Committee has gained during its tours is that the ryot is not able to secure the chemical fertilizers he needs in proper time and in adequate quantities. As a consequence he has to make at least a dozen trips to the taluk headquarters for getting supplies of (1) fertilizers, (2) iron, and (3) permits for green leaf. If the cost of these trips is added to the cost of production, the net income of the ryot is materially affected.
- 4. In olden days, the ryots had no need to go to any taluk headquarters except for jamabandi, and even then only when they had petitions to present. But now a ryot has to depend on the taluk headquarters for carrying on the day to day operations of agriculture. The system of issuing permits has almost upset the economy of the ryot. It has no doubt the advantage of even distribution and preventing accumulation. But in actual working, complaints are still being heard about the difficulty in obtaining the permit and the non-availability of stocks even though a permit is given. The system of issuing permits has led to the monopoly in the supply of articles essential to agriculture. These articles should be allotted village-wise on the basis of the area of wet land and should remain without sale for at least 6 months if there is no

demand. This method can be adopted in the case of iron at present. In the case of fertilizers, the supplies should be kept at firka levels at least two months in advance of the date of need and the necessity for redistribution should be examined only 15 days after such date. There will be need for fertilizers for persons who sow seed late and also those who transplant late. Decentralization of power, quick movement of stocks to local depots and avoiding delay, in fixing prices might improve the situation. The supply position, so far as the ryot is concerned, in regard to fertilizers, and iron is not so rosy as the Director of Agriculture or the Registrar of Co-operative Societies have represented to the Committee.

- 5. Cattle manure which in addition to humus and major plant nutrients also contains small quantities of micro-nutrients like molybdinum, boron, etc., which play a very essential part in controlling the growth and yield of plants, has to be carefully preserved and utilized. The value of cattle manure as a fertiliser cannot be over-estimated. The full manurial value of cattle dung is not utilized as it is not stored properly and allowed to mature in the proper manner. In India there is a strong prejudice against the use of human excreta though it is not to be found in the Asian countries like China and Japan. Composting of town rubbish with excreta has been more or less perfected during recent years.
- 6. The next question relates to the problem of supplies of essential goods to the cultivators. A distinction must clearly be made between the requirements of peasant as a producer of farm commodities and as a normal consumer. His requirements vary from area to area and will continue to multiply both in quantity and variety as our production plans go into operation. The essential articles for production are: (1) fertilizers, (2) pesticides, (3) iron for carts and agricultural implements and for cattle sheds, etc., (4) indigenous implements, (5) improved equipment including sprayers and dusters, (6) electric motors, diesel pumpsets and accessories and spares, (7) cement for construction of wells, channels, cattle sheds, etc., (8) fuel and lubricating oils, (9) tractors, and (10) green leaf for manure. In advanced countries the supplies are normally made by trade. However, in our country supply is so small and the expected demand, so unsteady that trade cannot be entrusted with the work of distribution equitably. Therefore—

- (1) the State should provide the supplies until trade is able to take over the functions;
 - (2) the quality should be of prescribed standard;
 - (3) the price should be fair to the cultivator; and
 - (4) the supply should be timely and adequate.

Farmers cannot be expected to check up these points by themselves and Agricultural Department will have to undertake this job. The supply agency, therefore, has to be separate from the technical staff. A suitable agency needs to be devised. We are of the opinion that the taxable capacity of the ryot would be affected, if the requirements of the ryot are not met in good time and in required quantities, of acceptable quality and at a reasonable price. We, therefore, recommend that the Government may ease the supply position on the lines indicated above.

Paragraph 3.—Adequacy of staff; equipment and pesticides available to control pests and plant diseases.

Control measures taken by the Agricultural Department.— The plant protection wing of the Agricultural Department is intended to undertake control and remedial measures whenever any outbreak of pests and dieases on crops are reported. Plant protection equipment like power sprayers, dusters and other hand-operated implements are stocked in the depots for demonstration and for use in case of emergencies. The equipment is also hired out to cultivators at nominal rates in Andhra districts. The following equipment is available with the department at present.

•		Andhra'	Telanga [,]	na Total
Power sprayers	•••	53	9	62
Power dusters	•••	4	3	7
Hand-operated spra	ayers	1,141	221	1,362
Hand-operated dus	sters	1,160	2,147	3,307
Seed mixtures	•••		11	11
Petromax lights (E	far)		138	138

The Agricultural Department proposes to further strengthen the equipment in the State during the Second Five-Year Plan period as follows:—

Power sprayers	•••	330	10	340
Hand sprayers	•••	2,000	60	2,060
Hand dusters	•••	2,000	60	2,060

The Department has also purchased 4 mobile vans to carry important pesticides to villages and make them available at the doors of cultivators. These vans are also fitted with all kinds of equipment for use in emergencies. Ever since the plant protection scheme came into operation, valuable work is being done in the State. Paddy, the major food crop in the State is subjected to more than a dozen insect pests and diseases and unless all these are controlled in time, when the pest or disease is most vulnerable, heavy losses are inevitable. Extensive use of pesticides at the right time may effectively control them. If the insect is tackled at the larval stage, it can be controlled easily. As an instance it was brought to our notice in Nellore district where due to prompt action the attack of the paddy earheadbug was controlled effectively, within a week in an area of nearly 20,000 acres by using 250 tons of pesticides. Mixing of sulphur with the seed for the control of grain-smut on jonna and the gammexene dust against grass hoppers, earheadbug, etc., have been well established as popular remedies. Among fruits, mango is important in this State. Poor yields are a normal feature due to the incidence of a sucking insect called 'Mango Hopper'. Similar steps could be taken for controlling the pests and diseases of citrus and other fruit Vegetables particularly exotic varieties could not be grown successfully in several districts due to heavy incidence of pests and diseases. Now large areas are grown as effective control measures are undertaken by the growers. Similar attention has been paid by the plant protection staff for the protection of commercial crops. Chillies in Guntur, Krishna, West Godavari, East Godavari districts faced extinction due to the heavy incidence of the pest called thrips; ryots grew despondent and doubted whether it would be possible ever to grow chillies successfully. It was demonstrated that thrips could be easily controlled by the application of chemical pesticides. At present this pest has ceased to be a serious prob-Tobacco nursery growing was a very speculative lem. enterprise previously because a serious disease called 'Damping off' and a cut worm called 'Prodenia' completely destroyed the nurseries. Tobacco is an important cash crop for the Circar ryot, besides being a valuable earner of foreign exchange. By intensive propaganda and demonstrations, the control over the pests and diseases of tobacco nurseries has reached the door of every tobacco grower. It may be mentioned here that during 1955, a phenominal attack of plant lice on tobacco occurred in Guntur, Krishna, West Godavari and East Godavari districts. The attack was unprecedented and the entire resources and ingenuity of the plant protection organization were pooled to combat this pest and nearly 40,000 acres were treated against this pest. Useful work has also been done in Telangana to control paddy pest called hispa on a large scale.

2. A summary of replies received from officials and non-officials which gives a different picture is detailed below:—

Nineteen officials and thirty-seven non-officials have stated that they are getting the advice from the departments regarding the pests and diseases while 4 officials and 11 non-officials, have stated that they are not getting any advice from the departments. Seven officials and twelve non-officials have stated that the advice sought from the departments is beneficial and they have also stated that they were able to get rid of the pests when they were attacking chillies and paddy. Two non-officials have stated that their advice is not practicable. One non-official has stated that the advice has been sought but due to the inefficiency of the staff, there was loss of crop. Another non-official has stated that the Agricultural Assistant rarely visits the villages and he is not known to the cultivators of the village.

- 3. From the replies to the questionnaire received from non-officials and replies given by officials we find that:—
- (1) In a large number of cases while the department said that effective control is possible, the ryots feel that the department have done nothing to combat the pests.
- (2) Enormous loss by insect pests and diseases, in the case of almost every crop notably groundnut, castor and chillies has been reported from most of the districts.
- (3) In large number of cases department is content in making only the recommendations and while welcoming Government of India's recent decision to subsidize all pesticides, we make the following suggestions:—
- (a) A similar subsidy in equipment and liberal import of power-sprayers and dusters is necessary.
- (b) Free demonstrations of the use of pesticides, is necessary all over the country.

- (c) Farmers should be trained on a large scale in plant protection methods at Government expenses.
 - (d) Organization of pest-warning service is essential.
- (e) Complete plant protection at the cost of the \$tate in 2 per cent of the villages to study the economics and organization problems and to provide training for plant protection personnel should be undertaken.
- (f) The research should continue into the technical and agro-economic problems relating to plant protection. We are of opinion that free pesticide demonstration should be done in one plot in each village so that ryots in the village could actually see the benefits for themselves and adopt them. We feel that at no time would Government agency be able to do all the plant protection that is needed. It is, therefore, necessary that cultivators must be told that plant protection equipment is as much a 'must' on their farm as a plough or a 'gorru' or a 'guntaka' and plant protection is as much their responsibility as any other operation on the farm. There is no escape from this reality. State does come in for providing advice and facilities and may come in also with their equipment in grave emergencies, when trouble flares up in an epidemic form. 3 4

Paragraph 4.—Recommendations to step up technical assistance to the ryots from Agriculture Department.

Assistance rendered to the ryots by the Agricultural Department is described below as could be ascertained from the answers to the questionnaire and the evidence of official and non-official witnesses recorded.

(1) Propaganda staff is appointed in the districts for carrying the results of research undertaken by the department to the doors of cultivators. There is an Agricultural Demonstrator or Agricultural Assistant for each taluk assisted by a number of field-men or kamgars. The jurisdiction of a kamgar or a fieldman is roughly 10 to 20 villages. This staff tours extensively in the villages and conducts demonstrations and tenders technical advice about improved agricultural practices to the cultivators. Superior strains of seeds are introduced and demonstration plots are organized on ryots' holdings. Additional Agricultural Demonstrators are also appointed in certain taluks of the State where the work is heavy for one demonstrator to manage.

- (2) There is a depot or a godown in charge of each demonstrator where improved seeds, manures, pesticides, implements and other agricultural requirements are stocked for sale and demonstrations to ryots. Additional depots are also arranged in certain taluks at important centres.
- (3) The department maintains a fleet of tractors and bulldozers which are available for hire to the cultivators to assist the ryots in the reclamation of their lands through mechanical means. There are at present 151 tractors and bulldozers in Andhra and 32 in Telangana.
- (4) The department also maintains oil-engines and electric motors which are given to the cultivators on hire for lift-irrigation. In Telangana, boring sets are also maintained by the department, to deepen the wells for augmenting water supply.
- (5) There are two Plant-protection Assistants in each district to attend to pest-control work. To disseminate information there are two publicity vans equipped with electric-generators and cine-projectors to carry on propaganda through Audio-Visual aids. Exhibitions are conducted by the department at all important occasions and ceremonies to educate the ryots on the activities of the department. Bulletins and leaflets are also published and distributed for the information of the public. The department also publishes a monthly Telugu journal called Padi Pantalu with a circulation of over 40,000 copies a month. The department also publishes every year a villager's guide and a calendar in which important agricultural topics are discussed and suggestions offered.
- (6) For the speedy development of ayacuts under irrigation projects, where the ryots are not familiar with irrigated farming, the department is taking special steps by appointing special propaganda staff.
- (7) Demonstration-cum-Research farms and agricultural research stations are maintained in representative tracts of the State to educate the cultivators and extend first-hand knowledge of practical agricultural improvements. Refresher courses for young farmers are also organized for short periods to impart practical training at some important stations.
- 2. We consider that the activities of the technical department depend upon the availability of trained personnel, apparatus and equipment. The department has been in existence for a long time and it may not be possible for the

Committee to make many recommendations on the technical side. But we consider that effective steps should be taken to correlate research, administrative and extension methods as has been emphasised by Shri A. P. Jain, the Union Minister for Food. The acid test of the efficiency of the extension machinery is to take ryots at random in villages and find out whether essential knowledge with regard to agricultural technique, use of improved seeds, plant diseases has reached them. There may be a few very intelligent ryots who make a special effort to acquire specialised knowledge. But we shall like every average farmer to know the principal activities of the Agricultural Department. The idea to arrange for tours of farmers throughout the State to visit not only agricultural research stations and well organised farms but also selected areas in the State where cultivation is done in a very efficient manner, is worth a good trial. The journal Padi Pantalu has not been issued for the last so many months. There seems to be another agricultural journal named Kisan which has been regularly issued and which contains valuable information. The Village Level Workers should take greater interest in agricultural activities. They should not stop by merely achieving the easy targets prescribed for them but should take keen interest in developing modern methods of agriculture by a vigorous campaign in the villages. The Committee feels that it is not possible for agricultural department by itself to extend all the technical knowledge that is needed to all the agriculture population. In addition to Agricultural Department, the village level workers, revenue officials, village officers and some others may transmit this to the villagers. To this end we suggest that agricultural education may be expanded and the trainees may be given preference in recruitment to Revenue and other allied departments. Short courses may be run for the village school teacher and the officer. The ideal to be aimed at is that every employee of the Government, coming in touch with the villagers should have a fair knowledge about science and practice of agriculture. Progressive farming is necessary and the farmers should be educated. The only effective method is by practical demonstration as there are enough number of fine farmers to grasp the advice. A technical man should be asked to teach and train a good farmer of a village and others would naturally copy the performance of the trained farmer. There will be many fine points that are adopted by some farmers and many of them are not properly publicised for the benefit of other farmers. Techniques are adopted by good farmers without

knowing the why of it. Men of science are needed to understand and extend these techniques. The quickest way to upgrade farming is to make every bad farmer copy a good neighbour. Every attempt must be made to enlist the voluntary services of good farmers in this task of agricultural extension. Only the visitor who observes closely could understand and find the scientific principle behind the same.

- 3. A note submitted in 1942 on "Registered farmers' Association" and "Agricultural Propaganda" by Shri J. Raghotham Reddy, a member of this Committee is appended. (*Vide* appendices).
- 4. The several suggestions made in the notes are recommended for consideration by the Government.

Paragraph 5.—Steps necessary to improve the indigenous breed of cattle for draught and milk purposes.

The Director of Animal Husbandry and Fisheries gave a note regarding the indigenous breed of cattle both for draught and milk purposes.

2. The All-India key village scheme envisages progressive improvement in the milk production and working efficiency of our cattle. This scheme has been formulated by the Indian Council of Agricultural Research, New Delhi after considerable thought. The term 'Key-Village' indicates that it holds the key to the success of cattle improvement. It is expected to be worked in villages under the ryots' own conditions, to convince them of the advantages of the methods and measures advocated. This scheme can be considered as the most important one evolved for cattle development in the Five-Year Plan. A key-village has been described as an intensive cattle improvement unit worked in a compact area of one village or a group of contiguous villages containing a total population of about 500 cows or she-buffaloes over three years of age fit for breeding. A selected number of breeding bulls are concentrated in the area for either natural services or artificial insemination. All the scrub bulls and the unapproved bulls are either castrated or removed from the areas in order to prevent any kind of indiscriminate breeding. Usually these breeding bulls stationed in the key-villages are replaced by a fresh stock of bulls of the same breed every four years so that within four or five generations, the entire stock in the keyvillage area turns out to be of superior quality of cattle. All

aspects of cattle improvement namely breeding, feeding, disease control, management and marketing will be attended to on scientific and approved lines so that the villages can eventually develop into co-operative cattle breeding farms.

Basis for selection of area for the key-village.

- (1) The cattle population should be stationary.
- (2) People of the area should be interested in cattle breeding and not merely in milk production.
- (3) Areas which have facilities for cultivation of cattle feeds and fodder have to be preferred.
- (4) Selected key-villages must be connected by good roads as far as possible.
- (5) Preference has to be given to areas where people are educated and progressive and where cattle improvement schemes have been in operation for some time past.
- (6) Location of key-village centres in areas containing definite breeds.
- (7) A compact area with 500 cows or bullocks may be chosen for the key village. This has been modified in the Second Five-Year Plan to cover a cow population of 800 so that a larger area gets the benefit.
- 3. Though the key-village scheme cannot be improved upon, the fact remains that the scheme serves only a very small number of villages. The total number of villages in Andhra Pradesh is 26,450, the total number of cattle is 2,95,13,119 and the number of villages covered by key scheme is 13. There are about 500 cattle in each of the areas covered by key scheme. The total cattle population coming under this scheme is only 6,500. The quality of cattle has been deteriorating very fast with the result that the price of cattle fulfilling certain recognised standards have gone up enormously. We consider that this problem should be tackled very quickly and on a very extensive scale, otherwise this deterioration of cattle will go on with disastrous results. It is a well known fact that even a small pair of bullocks will need three-fourth of the feed of a bigger pair, while giving only one-third of the latter's outturn of work. Besides, certain agricultural operations cannot be performed by inferior cattle. only answer to this question is the castration of scrub male stock as pointed out in the previous paragraph. In order to keep the best out of available stock in the

village for servce till replaced by better animals, rapid survey of all the villages, and if that is not possible, rapid collection of information with the help of village officers about fairly good animals sufficient to serve should be taken up as the first step and some kind of subsidy should be given as in the case of extension centres. The number of animals actually required for a population of 500 may not be more than 7 or 8, whereas actually the male animals are almost equal in number to the females. Even with regard to the Brahmini bulls, legislation can be introduced prescribing certain standard. When social customs like marriages are coming under legislative measures, it should not be difficult to bring in this also under legislation. As a matter of fact, the legislation will be in accordance with the ancient Hindu scriptures which lay down that only bulls satisfying certain standards could dedicated. We are of the opinion that though these involve considerable effort and though they might not bring in perfect results, yet there will be some improvement in the quality of cattle and in any case, the deterioration will be arrested.

4. Technical Programme:

- (1) Preliminary house-to-house survey of the area by the staff to collect information regarding the cattle census, availability of feed and fodder, average holding of the ryots, cattle diseases prevalent, marketing facilities for livestock products, etc., is carried out.
- (2) The breeding bulls that are to be stationed in the key-village centres should be from the livestock farms.
- (3) The breeding policy to be adopted in that area has to be laid down at the beginning and followed up from generation to generation.
- (4) Livestock Improvement Act has to be introduced in the area in order to facilitate complete breeding control being enforced.
- (5) Cattle Disease Act has to be enforced to facilitate the protection of all the cattle and buffaloes in the area against specific diseases breaking out in that area.
- (6) Each key-village centre consists of one artificial insemination centre at the headquarters and six key-villages acting as sub-centres. Artificial insemination is conducted at the main centre to these cows and buffaloes that are brought to the headquarters.

- (7) Each key-village centre is under the management of one Veterinary Assistant Surgeon who is assisted by two veterinary and livestock inspectors at the main centre and six veterinary and livestock inspectors at the six sub-centres. There are two attendants at the headquarters appointed to look after the four breeding bulls maintained for artificial insemination work. At each sub-centre two breeding bulls are expected to be maintained by selected custodians who will be paid a subsidy of Rs. 30 per mensem per bull towards maintenance charges.
- (8) Feeding.—Steps to conserve excess green fodder as silage or hay have to be taken. Proper attention for adopting improved methods of feeding is necessary since immediate improvement in the condition of the animals can be witnessed through balanced feeding.
- (9) Treatment of ailing cases, in each key-village is carried out either by the Veterinary Assistant Surgeon or Veterinary and Livestock Inspector. Periodically all cattle are protected against contagious diseases prevalent in the area.
- (10) In order to create an incentive among the ryots towards better system of cattle management, it is necessary to provide proper marketing facilities for the livestock products so that the ryots will stand benefited monetarily through the sale of those products. In a nutshell the key village centre can be considered where bulls that are produced in the livestock farms and multipled in key-villages so that they could later be distributed in other well defined areas. During 1958-59 sanction has been accorded for the implementation of key-village scheme at a total cost of Rs. 7.927 lakhs in Andhra Pradesh for the establishment of the following schemes.

Andhra Region.

- (1) Four key-village centres with six key-village unit each.
 - (2) Calf subsidy schemes for 200 calves.
 - (3) One urban artificial insemination centre.
 - (4) One milk marketing centre.
 - (5) One extension centre.

Telangana Region.

- (1) Establishment of three new key-village centres.
- (2) Calf subsidy scheme for 100 calves.

- (3) One urban Artificial Insemination centre.
- (4) Development of feed and fodder resources.
- 5. Urban Artificial Insemination centre.—This will be opened in the urban area where there is already a veterinary hospital or dispensary with the provision of a Veterinary Assistant Surgeon. The aim is to increase the milk yield by upgrading the local milch stock and to meet the ever increasing milk demand from the public of the urban area.
- 6. Calf subsidy scheme.—In this scheme calves of known breed both heifers and male calves are subsidised at Rs. 10 per mensem from six months age for a period of two years to create an incentive, amongst the ryots to pay proper attention to the calves.
- 7. Milk Marketing Centre.—This scheme envisages the provision of good marketing facilities for livestock and livestock products so that the ryots are benefited monetarily. This scheme envisages the provision of a common platform for milking, pooling of milk from surrounding villages and arranging for marketing of milk and cattle.
- 8. Extension Centre.—The scheme envisages the stationing of 24 breeding bulls both Ongoles and Murrah to cover 5,000 cows and buffaloes within a radius of 5 to 6 miles. These bulls will be distributed at 50 per cent of the cost and an annual premium of Rs. 220 will be paid to the custodiar. The extension centre is intended to up-grade the under-developed areas where the local cattle are non-descript and without any known breed of bulls.
- 9. Feed and Fodder Development Scheme.—As cattle get upgraded, fodder supply will have to improve. Sri S. Y. Krishnaswami in his book, "Rural Problems in Madras—Monograph" dealt with this problem. Extracts of paragraph 265-267 are given below.—

"The most important reason for the deterioration in the quality of cattle is inadequate nutrition. There are too many cattle in the country and the fodder produced is inadequate for their proper feeding. The Royal Commission on Agriculture stated that 'no substantial improvement in the way of breeding is possible until the cattle can be better fed' Although there is large extent of uncultivated land in the State, there is very little grazing available. Indeed in many parts of the country, the weeds growing on cultivated land, the grasses on field borders and along water channels, the cultivated plant which springs up from seeds falling before harvest and the stubble of crops, furnish the main grazing available for cattle. Further there is an abundance of grass only in certain brief periods of the year and except on the common grazing land near the villages where the early grass is devoured by starving animals, the latter growth never gets a chance to develop into pasture. Moreover the growth of grasses is extremely rapid and they quickly become unpalatable to the cattle. If these grasses are cut and stored at the proper stage as hay or ensilage, they will provide large quantities of cattle feed.

The conversion of some of the best grazing lands for cultivation to meet the needs of a growing population has also contributed to a shortage in fedder supplies. In certain cattle feeding areas, the introduction of money crops has resulted in a reduction of area under fodder crops. Mr. Littlewood, a former Deputy Director of Livestock in Madras, has explained how this process is going on in the Ongole-breeding tract. He says 'to give some idea of the methods of farming in this tract in former days and the present, I have taken a holding of 50 acres. In former years the cropping was 12 acres fodder cholam mixed with gram, 5 acres korra, sajja, followed by horsegram, 15 acres varagu and pyrujonna, 5 acres pyrujonna, 2 acres maize and 4 acres pasture, the cattle maintained on a holding of this size roughly as follows:—

two pairs work cattle; two or three cows; two or three buffaloes; and three calves.

All the fodder would be utilised by the ryot in feeding this stock. At the present time, if we take a holding of this size we find it cropped in this way:

Six acres jonna, 4 acres korra and sajja, 2 acres pillipesara, 15 acres varagu and pyrujonna, 5 acres pyrujonna, 2 acres maize, 10 acres chillies, coriander, tobacco, groundnut and 6 acres pasture. Of these practically the whole produce of 10 acres is sold away and the ryot is short of 5 acres of grazing

land and 6 acres of fodder crops; this is roughly 50 per cent of of his grazing land and 15 per cent of fodder growing land. The ryot does not purchase any fodder to make good the deficiency and hence the quality of the present day stock is not so good as formerly.'

A considerable portion of the area which is called as forest is open to grazing either throughout the year or during parts of the year, especially in summer when grazing is required. Grazing in the reserve forest areas has been going on for many years under permits issued by the Forest Department. Several measures were taken to fix the areas and to limit the number of cattle to be admitted for grazing within the reserve forest. In 1895, reserve forests were divided into grazing blocks which in turn were divided into compartments so that some portions might be closed to grazing for a period. A Forest Committee was appointed in 1912 to examine the question of grazing in reserve forests. The Committee recommended a scheme of classification of forests. It also recommended that grazing fees should not be abolished and that goats should be strictly excluded from all reserved forests. It added that blocks intended for the grazing of local or migratory cattle should be carefully fixed with due regard to area and water supply. As a result of the Committee's recommendations, certain forest areas were separated and for such areas, forest panchayats were established. In 1920, there were 336 panchayats. In 1922, these Panchayats were transferred to the control Revenue Department. The transfer of about 3,000 sq. miles of forests to panchayats did not, however, materially help to improve the position. The block system of grazing was abolished and grazing was allowed over the entire range. Regulated grazing was thus neglected. The Royal Commission on Agriculture which examined the question recommended that the intensity of grazing should be determined consistent with the proper development of the forests and the preservation of desirable grasses. It was not, however, given effect to. Thus the sound policy of controlled grazing laid down nearly 50 years ago has been relaxed in several ways resulting in a more prodigal utilization of grazing grounds".

In Andhra region, except in some parts of Nellore district grazing is permitted under 'Permit System'. In the remaining parts of Nellore district 'Kancha System' is favoured though not without some opposition from some sections of

public. To meet their wishes, it had to be replaced now and then with 'Permit System'.

Section 25 of the Land Revenue Code of Hyderabad for Fasli 1317 (Act VIII of Falsi 1317) lays down that when a village is under settlement, the Commissioner of Survey Settlement or the Commissioner of Land Records in that village and in other cases, with the sanction of the Board of Revenue, the Talugdar may subject to the orders of the Government set apart any Khalsa Land not in the lawful occupation of any person or class for pasturage of cattle or for grass reserves or for other Government purposes of public benefit, provided that it does not interfere with any right of any person or class. The land so set apart shall not be otherwise appropriated without the orders of the Board of Revenue. Subsequently the Government in their order Ms. No. 1406, Revenue, dated 25th July 1958, prohibited the assignment of any lands set apart for pasturage for cattle, Gairon, Bancharai and Kancha. They also laid down that an extent equal to at least 10 per cent of the total cultivable area in a village shall be set apart as grazing lands for cattle. These orders apply only to Telangana region. The Government laid down their assignment policy and issued instructions applicable to Andhra area in their order Ms. No. 1407, Revenue dated 25th July 1958. This order does not contain the rules relating to grazing grounds as in the Telangana region issued in their order Ms. No. 1406, Revenue, dated 25th July 1958. We consider that it is desirable that rules similar to those in Telangana should also be made for Andhra region.

There was a 'Standing Fodder and Grazing Committee' in Andhra State constituted as per G.O. Ms. No. 123, Industries, Co-operation and Labour, dated 12th January 1956. This committee observed that about 92 per cent of the cattle depend upon grazing outside reserved forest. We understand that a similar committee is being constituted for the State of Andhra Pradesh. We request that the new Committee be constituted at an early date so as to enable it to advise the Government on problems relating to fodder.

- 10. Artificial Insemination Centres.—Artificial insemination has gained popularity, of and the advantages are as follows.—
- (1) Since there is a terrible shortage of breeding bulls, as against the huge number of cow population, this method is

of particular significance. Among the available breeding bulls only a few may have outstanding qualities. In these circumstances, it is of great advantage to station good and selected breeding bulls at centre, so that a large number of cows can have the benefit of being inseminated from the semen collected from a good bull so that good calves may be expected. Difficulties due to difference of size can be got over, since the semen sample from a big bull can be inseminated into a small cow, whereas it is not a possibility for the bull to cover a small cow or young cows.

- (2) This technique enables the examination of the semen quality of this bull and at the same time to examine the genitalia of cow before insemination is done, so that it ensures good results as far as possible, and prevents the spread of diseases. It gives a clue to the cause of sterility in cows.
- (3) Results due to artificial insemination have amply proved that fertility percentage due to this technique has been made as good as natural service.
- (4) In thickly populated areas, the artificial insemination technique can be considered as a boon where 10 bulls are required for 1,000 cows, the purpose can be usefully served with 2 good bulls for artificial insemination work to be conducted.
- 11. The main disadvantage is that it is highly technical and unless all necessary precautions during collection, evaluation, dilution, insemination and sterilization of the instruments after insemination are taken, it may have bad repurcussions.
- 12. A summary of the replies received from officials and non-officials is given below.—
- 13. Reasons for the low yield of milk as stated by nine officials and 14 non-officials are lack of roughage, lack of concentrates, defective breed and bad maintenance. Ten officials and 14 non-officials stated that veterinary assistance is not timely and not available in time adequately. Two officials and 23 non-officials stated that veterinary assistance is available, seven officials and seven non-officials said that the special breed brought from outside, yields more than the local one and their offsprings also yield more. Two officials and six non officials

said that the better yield is due to the better maintenance and inherent qualities.

- 14. From the account given by the Director of Animal Husbandry we feel that the department is doing its best to improve the breed of cattle. The Forest department may undertake silage of grass wherever it is plenty in the forests and make it available to the scarcity areas. The method for up-grading cattle is perhaps well-known. Up-grading of cattle is the quickest way to improve the economic condition of the people in villages. As cattle get up-graded, fodder supply will have to improve. We feel that the deterioration in cattle due to natural causes is far faster than the progress in the reverse direction achieved by all the Governmental and private efforts put together. As time goes on there will only be deterioration. We cannot lay too much emphasis on a plan calculated to stop the rot and make positive gain. To this end the following suggestions are made for consideration of the Government.—
- (1) To consider problems of land with reference to their effect on cattle wealth.
- (2) To intensify research in breeding and management problems of cattle.
- (3) To use private breeders as spearheads of progress.
- (4) To extend concessions where green fodder is grown for cattle.
- (5) To educate people on the economics of having good cattle and looking after them well, and
- (6) To emphasise milk production and improve marketing facilities for milk.
- 15. The whole problem needs a very careful study. Our holdings have also been too small for machines but are now getting to small for even cattle power. Poverty has eaten so much into our vitals that human labour has become cheaper than animal power. We content ourselves with drawing attention to the alarming state of affairs in the country side. Cow is no longer worshipped in practice, but is reared and worked under appalling conditions. The whole economy is in a vicious circle. Standard of living is roughly proportionate to the power each individual handles. We have no machines and not even good cattle to give relief from human drudgery.

While it is not possible to suggest anything better than the key scheme (for permanently up-grading cattle) which has been evolved after a thorough consideration of all the facts, we feel that some immediate steps are necessary to arrest the deterioration in the quality of the cattle. We think that if the best bull now available in each locality is selected even though it may not come up fully to the required standards, adequate subsidy given to the owners and the other bulls castrated, at least the rate of deterioration will go down. While considering the problem, we have also to visualise the magnitude of the There are crores of cattle of very poor standard, deteriorating in quality at a fast rate. There are few bulls that come up to the standards. There are also difficulties standing in the way of artificial insemination. Considering all these we think that our suggestion may be examined from the technical and administrative point of view.

16. We also recommend to the Government for making special provision in the matter of foreign exchange for acquiring suitable equipment for artificial insemination in an adequate measure.

Paragraph 6.—Adequacy of facilities for the marketing of agricultural produce to enable the ryots to secure fair prices.

The Royal Commission appointed in 1926 on Agriculture to enquire and investigate into the evils and defects in the economic system prevailing in rural areas revealed that due to lack of marketing facilities the producer obtained only 6 to 10 annas in a rupee paid by the consumer. The Commission made several recommendations in its report, the important of them being.—

- (1) Regulation of Agricultural Markets by suitable legislation, and .
- (2) Study and enforcement of measures connected with the improvement in the marketing methods of agricultural produce.
- 2. On the basis of the first recommendation, the Hyderabad Markets Act of 1930 and the Madras Commercial Crops Markets Act of 1933 came into being in the Telangana and Andhra regions respectively. In 1935, the Government of India constituted the Directorate of Marketing and Inspection for conducting Marketing Survey of agricultural produce and livestock products in pursuance of the second recommendation of the Royal Commission and asked the State Governments to consti-

tute Marketing organisations in their respective States in cooperation with the Government of India to undertake the survey. In Hyderabad State, the Chief Marketing Officer, who had already been appointed to enforce the Act in different trade centres and administer the markets regulated under the Act was made the Head of an Independent Marketing Department. In Madras the marketing organization was made a part of the Department of Agriculture. The Acts provide for the formation of the Market Committees to run the administration of the local markets, empower Government to make rules for proper management and regulation of such markets and confers on market committees the powers to frame its bye-laws subject to the provisions of the Acts.

- 3. There are 40 regulated markets in Telangana region. These markets work under the regulation of the Hyderabad Agricultural Markets Act, 1930 which applies to the purchases and sales of 54 agricultural commodities and livestock. In Andhra, regulated markets are established under the Madras Commercial Crops Market Act, 1933. In this region the Market Committees are constituted with jurisdiction over an entire district. The Act is in force in all districts except in Nellore and applies only to a few selected commercial crops which are significantly grown in the respective districts. The District Committees administer the transactions in the market yards distributed all over their respective districts.
- 4. The advantages derived from the regulation of the market are so obvious that it is not necessary to enumerate them here.
- 5. In accordance with the recommendations of the Agricultural Prices Enquiry Committee an integrated scheme for the improvement of market intelligence jointly financed by the State and Central Governments was sanctioned by the Government of Andhra Pradesh. Under this scheme it is proposed to effect improvement in the existing market news service so as to help the producer-cum-sellers in marketing their produce. To achieve this the Government of Andhra Pradesh selected 35 representative markets in Andhra region and 10 in Telangana region for the purpose of gathering and reporting daily price quotation and set up a field office at Vijayavada in 1957-58 and another at Hyderabad in 1958-59. The marketing assistants in charge of the field offices collect data regarding prices, arrivals, and despatches of stocks from the different market centres selected in respect of rice, pulses, fruits, groundnut,

tobacco, chillies, cotton, ghee, poultry, eggs, etc., and arrange for their dissemination through the AIR, Vijayawada, and Hyderabad daily at 6-55 p.m. for the benefit of the cultivators and traders. Besides these daily broadcasts, daily news bulletins and weekly reviews are also issued in English and Telugu.

6. A summary of replies received from officials and non-officials is given below.—

Channels of marketing—The common channels of marketing shown by both officials and non-officials are markets, weekly-shandies, both retail and wholesale merchants, commission agents and private traders.

Disposal of the Produce-11 officials and 39 nonofficials have stated that they sell their produce to the village trader, while three officials stated that the ryots dispose of it by selling it at the regulated markets. Another batch of three non-officials said that the ryots dispose of the produce through the merchants, middle men and through brokers. One official stated that the ryots get the full value of his produce by selling it to the village trader, while another non-official stated that he is not receiving full value for his produce. Particulars of deduction as stated by one non-official are 4 annas commission for 100 seers, Rs. 5 per cart, Rs. 5 for measuring, Rs. 2 for water; another non-official said sales tax, purchase tax and transport charges are the deductions made. Another non-official stated that commission and transport charges are deducted from the price paid to the growers. 12 non-officials and one official stated that the distance of the regulated markets ranges from 10 to 80 miles.

Co-operative Marketing Societies—11 Officials and 17 non-officials have stated that there are Co-operative Marketing Societies in their taluks, while eight officials and 25 non-officials have stated there are no Co-operative Societies in their area. Three non-officials have stated that these Co-operative Societies are not working properly and that their existence is of no use in their area. One official stated that the Co-operative Credit Society is beneficial, for it will supply manure and iron goods. One non-official stated that he is getting loans at low rate of interest and loans are being collected soon after the harvest. Three non-officials said that it is not beneficial because it is supplying loans only to a few influential ryots, but not to all.

- 7. We feel that the broker or the buyer in the regulated market does not pay for the sweeping, the market fee and the hammalies. We consider that the expenditure on the above items should be shifted to the purchaser and not to the producer. We are of opinion that there is need for having regulated markets in larger numbers all over the State and that they should not be confined only to commercial crops but extended to the sale of all agricultural commodities including perishables like vegetables, fruits, milk and eggs, etc.
- 8. Rice is the biggest crop in Andhra area and its exemption from the operation of market laws is wrong. We urge that this be set right and all agricultural commodities brought to market, must be brought under marketing regulation.
- 9. Co-operative marketing is a fine tool if well wielded in the hands of a disciplined and conscientious group of growers. It will be effective against traders if they desire more profit than what their legitimate due is. All help and encouragement should be extended by the State to Co-operative marketing.
- 10. A normal grower stands to gain by competition between the purchasers and the benefit is highest when competition is perfect. We suggest that private trade must be encouraged to compete amongst themselves and as against the growers Co-operative. The traders will thrive if only their profits plus overheads are less than overheads alone of the Co-operative Marketing Societies. Monopoly in trade, whatever may be the agency, will work against the interest of the producer. We also suggest a speedy integration of the marketing regulations in the State.

Paragraph 7.—Rural Housing of Agriculturists.

Good housing conditions are necessary for increased efficiency. This is as true of farmers as of any body else. In addition to his own house, the farmer has to find a roof for his cattle, his implements and his produce. If a family has full employment in agriculture along with a pair of bulls, a couple of milch animals and three or four calves, it will own either 20 acres of dry land or four acres of wet. The implements would consist of two ploughs, a harrow, a drill and a few inter-cultivating devices. The family's produce would be about 80 bags of grain requiring 400 c.ft. of storage space. The roof area required at the rate of 100 sq. ft. per member of the family would be 300 sq. ft. and for six cattle at the rate of 50 sq. ft. will be 300 sq. ft. The total area that is needed to be under roof

even if grain is stored in another place and implements are kept along with the cattle, would be not less than 800 sq. ft. Thus the maximum space required if farmers are to exist as 'Homo Sapians' is about 800 sq. ft. Village sites have become congested and the space required by a farmer in the site is considerably great.

2. As ideal solution for our farmers would be to follow the practice of the other countries as well as Malabar and South Kanara and begin living on their farms. This kind of living will also encourage small agriculturists taking to profitable occupations like kitchen gardening, dairying and poultry so that they may pay adequate attention to the garden crop and watch them especially when they are ripe. If on the other hand they have to raise vegetables far away from their residence, it will not be possible for them to watch the fields constantly. They will also be able to utilize the manure better and can avoid the trouble of carting it.

Much is said of insanitation that would result in keeping animals at home. In some areas the practice is to have a cattle shed near the irrigation well and for the men folk to keep guard of the farm house by turns while women and children sleep in the village. In areas where this is not possible the cattle shed can be kept absolutely sanitary. In districts like East Godavari where wet land is very costly, it may not be possible to live in the midst of the fields, but the village site may be expanded and adequate space may be allowed for each family by providing sub-village sites.

3. We, therefore, recommend that the Government may encouarge construction of farm houses and to expand the village sites generally.

Paragraph 8.—Adequacy of existing sources of credit available to the ryots and recommendations to improve them.

The subject of Rural Credit and Indebtedness of Agriculturists is a subject of vital importance affecting the economy of the rural population. From time to time, estimates have been made of the total indebtedness of the people of the States. The Deputy Director, Bureau of Economics and Statistics states that the estimated rural indebtedness of Andhra Pradesh may be taken as Rs. 228 crores on the basis of the Rural Credit Survey conducted by the Reserve Bank of India (1951-52). The causes of rural indebtedness have been mentioned practically by all Committees. Too much emphasis

is often laid on social obligations like marriages as one of the causes for indebtedness. A little expenditure on social functions cannot be eliminated or considered to be extravagant. Some of the money, however, is spent on unproductive objects which are not connected with the improvement of the cultivator's land. Agriculture, as it is carried on to-day, requires only a minimum working capital. Nevertheless, the agriculturist is forced to borrow at very high rates of interest. Evidence is forthcoming that many of the agriculturists are borrowing money at exorbitant rates of interest. The methods of financing adopted by the money-lenders are such that once a person gets into debt, it is extremely difficult for him to get out of it. The chief causes of rural indebtedness include. among others, (i) poverty, (ii) ignorance, (iii) extravagance, (iv) ancestral debt, (v) increase of population without corresponding increase of the means of subsistence, and (vi) more than anything else the uneconomic income from the existing system of farming. The chief purposes for which the money is spent by the agriculturists are: (a) the purchase of production requirements, seed, cattle, etc., and payment of wages, (b) the purchase of articles of food, clothing and other domestic necessities and (c) the financing of social or religious unproductive debt of the country The increased considerably since the latter half of the last century and the World Wars accentuated the evil. Though there is rise in the prices of various agricultural commodities since 1942, the balance is not completely turned in favour of the agriculturists. More than half of the total indebtedness is only due to poverty as Indian agriculture is often a gamble in the monsoon and the Indian monsoon has all the proverbial caprice of the eastern potentate. On the whole, it can be said that the ryot is not getting even 8 annas worth for his produce for which the consumer pays Re. 1. The middlemen walk off with large profits. Indebtedness compels a cultivator to sell his produce to his creditor at very unfavourable rates. The money-lender's grip over the cultivator results, not to mention the latter's economic servitude, in the reduction of the income of the agricultural debtor on the one hand and a rise in his expense on the other. Another consequence is that the agricultural indebtedness results in the transfer of land from the agriculturist to the non-agricultural money-lender, thus making the peasant proprietors a landless proletariat with greatly reduced agricultural efficiency, and lowering the standards of farming. Inherited debt is another contributing

cause. Innumerable people are born in debt, live in debt and die in debt from generation to generation. The cultivator pays high rates of interest because he incurs vast sums on unproductive debts. The Government and the Co-operative Societies are the chief sources of credit besides indigenous sowkars. The Government and the Co-operatives have not been able to touch even a fringe of the problem. The sowkar gives loans promptly without much enquiry as he is conversant with the situations of the borrower, whereas the Government would conduct detailed enquiries in each case through the Village Officers and other channels about the valuation of the land, its owner, etc. We have ascertained through our questionnaire the present problem relating to the credit. Ryots have represented to the Committee during their tours and interviews, the plight of the producer who is at the mercy of his nearest middle man and the money-lender. Relatives, friends and substantial farmers also render some assistance to poor ryots but this is not very appreciable as ascertained through the questionnaire. An analysis of answers received to the questionnaire shows that the ryots are not having adequate facilities for obtaining Government and Co-operative loans in right time and there is undue delay in disbursements. Another complaint is that cooperative societies are acting in a partisan spirit and lending money only to members of the parties of the ruling officials of the societies. The rules relating to the grant of loans are very elaborate and it is really difficult for joint pattadars to secure In spite of denial by officials there is a lot of delay in the grant of loans by the Revenue Department. Though enquiries are necessary, they should be made with speed and on essential points. The Committee has also interviewed the Deputy Registrar of Co-operative Societies regarding the loans given by that department. He explained that loans are given either on personal security or on the mortgage of properties. With reference to the value of property mortgaged for loans a member would be given a loan, not exceeding 50 per cent of the value of property mortgaged. In the Telangana area, loans are advanced only on the mortgage of lands and there is no provision for the issue of loans on the strength of sureties. Further the basis of the individual credit limit in Telangana is the revenue assessment. It was previously five times for wet, ten times for garden and 12 times for dry lands. These credit limits have been doubled recently to 10, 20 and 24 times respectively. Manures are not given in the shape of loans by the Co-operative Department. For raising long term loans the

Land Mortgage Banks require production of title deeds and encumbrance certificate for 24 years prior to the date of application. The difficulties in the matter of early disbursement of loans put forward by the Departments are:—

- (1) Delay in producing title deeds by the agriculturist,
- (2) Want of consent statement of joint pattadars,
- (3) Unsurveyed tracts and consequent difficulty in identifying the lands,
- (4) Delay in producing encumbrance certificate issued by Registration Department,
 - (5) Want of adequate resources,
 - (6) Inability of poorer sections to secure sureties and
- (7) Rules of Telangana requiring ownership of land as a condition for membership in a Co-operative Society.
- 2. At present there are three agencies for sanctioning loans to agriculturists. These are the Revenue Department, the Agricultural Department and the Co-operative Societies. Yet, only 5 per cent of the demand could be met. In the Second Five-Year Plan provision has been made to increase the credit facilities from 5 per cent to 40 per cent. After taking into account the full particulars of loans advanced during the past five years by all these agencies for various purposes, we consider that the existing credit facilities are absolutely inadequate and that they require to be stepped up and the delay in the grant of loans should be minimized.
- 3. The Registrar of Co-operative Societies has reported that the number of agriculturists benefited by the Co-operative Societies, Land Mortgage Banks, etc., during the past five years (in the Andhra Region) is as follows:—

Year						Agriculturists benefited. lakhs.		
1953-54	•••		• • •	•••	• • •	•••	1.95	
1954-55	•••	•	•••	• • •	•••	• • •	2.00	
1955-56	•••	•••	•••	•••	• • •		$2 \cdot 45$	
1956-57	•••	• • •		• • •	• • •	•••	3.15	

and that in the erstwhile Hyderabad State the figures were not complied.

4. An analysis of the answers to the questionnaire in the matter is as follows:—

One hundred officials and one hundred forty-four non-officials of Andhra region, and 22 officials and 69 non-officials of Telangana region have stated that Co-operative Societies are working satisfactorily. Sixty-six officials and 129 non-officials of Andhra region, 40 officials and 37 non-officials of Telangana region have stated that Co-operative Societies are not working satisfactorily.

Three officials and three non-officials of Andhra region, six officials and four non-officials of Telangana region have stated that non-collection of loan instalments militated against the success of Co-operative Societies.

Twenty-six officials and 41 non-officials of Andhra region, eight officials and 11 non-officials of Telangana region have stated that due to delay in granting loans, lack of enthusiasm, and illiteracy among members, the societies are not working successfully.

Two non-officials of Andhra region, two officials and two non-officials of Telangana region have stated that the societies are not working satisfactorily due to the non-availability of long-term loans. Four non-officials of the Andhra region have stated that five Co-operative Societies could not secure a large number of members due to the insistence of collection of membership fee at Rs. 10 per head.

Fourteen officials and 23 non-officials of Andhra region, one official and one non-official of Telangana region have stated that the societies are not working satisfactorily due to factions and misunderstandings prevailing among Members and Directors. Seven officials and five non-officials of Andhra region and three officials and two non-officials of Telangana region have stated that due to inefficient control the societies are not working well. Five officials and five non-officials of Andhra region and two officials and one non-official of Telangana region have stated that due to misappropriation of funds by the office-bearers, the societies are not functioning well.

Three officials and two non-officials of Andhra region and four officials and one non-official of Telangana region have stated that due to inadequate staff, the societies are not working well.

One official of Telangana has stated that the societies are not functioning well as the ryots did not understand the principles of co-operation.

- 5. Denmark has solved many problems of co-operation. Whatever else may be doubtful or open to argument in connection with the Danish agriculture, one thing remains clear, namely, that it owes the greatest part of its prosperity to the working of the Co-operative Movement. No doubt the people of Denmark are well educated and belong to a homogenous group, but even in India co-operation can succeed if conditions are carefully studied and Co-operative Societies are evolved for certain specific purposes. For example at present there are no Co-operative Societies intended for the agriculturists residing in villages around cities and towns to grow vegetables or for the supply of milk or eggs for which there is great demand. The real cause is lack of proper organization. To give a few instances, the ryot who produces beans in a village near Hyderabad sells them at 42 seers a rupee to the middleman often without even weighment, whereas the consumer gets only three seers per rupee. Milk is collected by middlemen from villages at the rate of three seers per rupee and sold to city dwellers or hotels at 13 seers per rupee. We recommend that rules for the Co-operative Societies have to be framed in such a way that local needs of the people are served. Rules must be suited to the society and not vice versa-and the activities of the societies should be correlated to the needs of the members.
- 6. This is well recognized by the Government as is evidenced by the Government of India accepting the recommendations of the Rural Credit Survey Committee. There is consistent attempt to enlarge the scope of the co-operative operations. Since the private credit cannot be replaced completely in the foreseeable future, it is worthwhile regulating private lending and allowing it to compete with co-operative and Governmental credit to the advantage of the borrower.
 - 7. We would, therefore, recommend that:—
- (1) joint pattas may be allowed to be turned into individual pattas and sub-division of land may be made promptly.

- (2) the pass book recommended by the Village Officers' Enquiry Committee to be given to the ryots may be given very early,
- (3) law governing state and co-operative credit may be integrated early and
- (4) private money-lending may be regulated and encouraged to compete with other forms of State sponsored credit.

CHAPTER IX

Paragraph 9.—Cottage Industries.

Cottage industries have always played a significant role in Indian Economy and in fact the decay of cottage industries marked the beginning and it is in the fitness of things that successive Five-Year Plans should emphasize their importance.

- 2. Khadi and hand-loom are our premier village industries and so also blacksmithy and carpentry. Considerable attention and money is being devoted to their encouragement. We think that Government are already alive to their importance and will certainly do all in their power to foster them.
- 3. Apart from this what we suggest is that occupations ancillary to crop production may be treated as Cottage Industries and given due State patronage. The problem of low income in the villages is bound up with lack of full emloyment and adequate capital. In Andhra Pradesh nearly 25 per cent of the area is already under irrigation and the potential is very much greater. Once the water is available the employment in agriculture increases and is spread out over a larger period. Apart from expansion of flow irrigation well sinking is possible on a massive scale and can be economically done. Even where flow irrigation is available only during monsoon, wells can be sunk in the ayacut to give water for second and third crops.
- 4. In European and North American countries there is no farm employment in winter for crop production. Animal Husbandry comes to their rescue and gives them both employment and income. What is winter to them is summer to us

and if we can encourage mixed farming and add livestock to each farm then summer will no longer be a lean season. Milk production, poultry, rearing of calves both for work and milk can be a very interesting and lucrative occupation.

- 5. To the casual labour engaged in operations like planting, weeding, harvesting and thrashing during the crop season one can find ample employment in sinking and repairing of wells and other land improvement jobs.
- 6. With the growth of irrigation the undulating land requires either to be terraced for rice cultivation or to be graded to uniform slope for light irrigation. These jobs are capable of being done by machines but with present wages are done more cheaply by human labour. This also applies to contour bunding in areas where irrigation is scarce and which are largely dependent on monsoon. Every soil conservation measure would require some type of permanent or semi-permanent work on land during the off season. With rise in National incomes, the demand for fruit is bound to rise and almost all fruits are borne on perennial trees and, therefore, fruit production gives a year-round employment—more during summer than in other seasons. Larger production of fruit opens up yet another cottage industry, i.e., fruit preservation. Small village-based industry can very profitably be built up.
- 7. Village communications are proverbially bad and agriculture cannot improve unless the requirements of the farm like seed, fertilizers, pesticides and fuel oils, etc., can move in and agricultural commodities move out with ease and at less cost. The Government have to align the net work of village roads, acquire land and make roads. This process in the beginning and repairs every year will need plenty of unskilled labour in the off season.
- 8. We have already referred to rural housing as a cottage industry with almost unlimited potential for employment. This together with the other items, we have mentioned above, are enough for a long time to come to absorb all the manual labour our villages can make available. While we do not minimize the importance of encouraging the production of consumer goods on the cottage industry scale, we would draw a distinction between these and the ones we have catalogued. Even as in the case of producing consumer-goods items like animal husbandry, dairying, and poultry on the one hand and well-sinking, terracing, village road improvement and mainte-

nance, construction of rural houses on the other will all give employment during lean season, but in addition will create lasting capital in the village and will increase farm production and thus generate higher incomes. We would, therefore, urge that in any scheme of things under which State aid is made available, these must receive a higher priority than the production of consumer goods.

Paragraph 10.—The factors affecting the prompt repayment of loans by agriculturists.

Arrears of Land Improvement Loans and Agriculturists' Loans have accumulated practically in every district. figures of demand, collection and balance of loans sanctioned to the ryots for various purposes reveal that there has not been prompt repayment of loans. We have examined both the officials and non-officials and elicited answers to the questionnaire on this matter. Many ryots who obtained loans from the Government do not consider it necessary to clear off the debts during the favourable seasons. Some ryots who are really affected by unfavourable seasonal conditions in a few villages approach the Government and obtain comprehensive orders for postponement and every one deserving and undeserving enjoy this benefit. The postponement of collections of loans has become almost a regular feature during recent years. Postponing the collection of loans and the grant of fresh loans when there are already arrears tend to piling up the burden on the ryot in the case of loans granted by Co-ope-The agriculturist however, repays, the loans rative Societies. to the money-lenders as he is afraid of the methods, legal or otherwise adopted by him and a fear of the failure of a source of credit for the future. Another feature of Government loans is the improper distribution and non-issue of demands by the collecting agencies in time. While there are many agencies sanctioning the loans the collecting agency is only one. The collecting agency is the Revenue Department, whether it is the Revenue Department or Agricultural Department that grants Seventy-three officials and 50 non-officials of the Andhra region, 16 officials and 28 non-officials of the Telangana region have stated that it is only on account of indifference that cultivators are not repaying loans taken from Government regularly. One hundred and sixteen officials and 140 non-officials of Andhra region and 36 officials and 69 non-officials of Telangana region have stated that the cultivators are not prompt in repaying loans to the different agencies due to unprofitable farming. Seven officials and four non-officials of Andhra region and one official of Telangana region have suggested that the situation would improve by resorting to Cooperative Farming. Thirty-three officials and 62 non-officials of Andhra region and 6 officials and 14 non-officials of Telangana region have suggested that the situation would improve by granting long-term Taccavi and Agricultural loans to rvots at low rate of interest for purchasing agricultural implements, seeds and manures. Two non-officials of Andhra region, one official and one non-official of Telangana region have suggested that grant of improved seeds and manures beside appointing adequate plant protection staff would improve the situation. Eleven officials and three non-officials of Andhra region, four officials and two non-officials of Telangana region have suggested that by providing better irrigation facilities, the situation would improve. Seventeen officials and 13 non-officials of Andhra region and four officials and two non-officials of Telangana region have suggested that by timely collection of loan instalments even by applying coercive processes would improve the situation. Seven officials and ten non-officials of Andhra region and five officials and five nonofficials of Telangana region have suggested that the situation would improve by establishing Co-operative Marketing societies. One non-official of Telangana region has suggested grant of subsidies to all ryots that possess less than 10 acres of land. Two non-officials of Telangana region have suggested that it is necessary to take measures for maintaining the price levels of foodgrains. There is also laxity on the part of the officers in applying the provisions of the Revenue Recovery Act.

2. The principle governing any productive debt is that the money borrowed and invested must lead to a rise in income, sufficient to repay the loan while the improvement lasts and add somewhat to the real income of the borrower. Repaying capacity is intimately connected with the profitability of agriculture. Another factor that tends to swell indebtedness is the lending by agencies which have nothing to do with collections. Even in lending we have targets to be fulfilled which leads to indiscriminate lending. Village Officers if paid a collecting fee may add to efficiency of collections. Lending by Government out of a revolving fund which is reimbursed by collections would pin point attention on failure to recover the moneys. In Telangana the Village Officers must be made

to maintain loan registers and such outstandings may be entered in pass books, the maintenance of which we are proposing elsewhere.

- 3. We consider that rigorous steps should be taken to collect the arrears when seasonal conditions are fair and ensure that credit is made available for the people who really need them. The amount allotted by the Government, should roll and serve the needs of many and not get locked up as at present. Only constant demand by the concerned officials at the appropriate time after the harvest will yield good results. Any undue leniency in this matter is certainly not a favour to the ryot. We, therefore, recommend that—
- (1) all Government credit to land owners must be channelled through the same agency.
- (2) instalments must be fixed keeping in view the benefits likely to accrue to the borrower; and
- (3) collecting staff must bear a relation to volume of lending.

Paragraph 11.—Training necessary to Village Officers and to publish a monthly Revenue Journal.

There can be no efficient land revenue system without a good karnam at the village level and there can be no good karnam without adequate pay and training. The question of pay has been gone into by the Village Officers' Enquiry Committee, 1958 in the Andhra Region. The same question about Telangana Region is engaging the attention of the Government. In view of the rapidly increasing volume and variety of work to village officers with the increasing tempo of planning and developmental activities, it is quite necessary that there should be a suitably trained body of village officers who will be able to respond more efficiently to the needs of a Welfare State. Mere passing of some tests cannot give them all the equipment necessary to play their role effectively. We consider that special training is necessary to the karnams and patwaris and that such training should be at the cost of the Government. The period of training need not exceed two months at a time but it should include the training in survey, the knowledge of revenue and other rules, the methods of collecting statistics, estimation of crop yields, an elementary course of veterinary science and practical training in an agricultural farm. We also consider it necessary that the Board of Revenue must issue a monthly journal of suitable size containing the latest orders and supply it to all Village Officers and Revenue Inspectors direct by post. They should not be distributed through the taluk offices under any circumstances as the bundles are likely to get locked up in Taluk Offices if sent through them. We feel that it would be most helpful to the Village Officers as there would be an opportunity for them to study the latest orders every month. Regarding the expenditure involved, the Committee submits that a journal of 24 pages would cost only 25 n.p. In 12 issues it would be Rs. 3 per annum. The total cost would be Rs. 81,000 if supply is made to 27,000 villages. Even if the expenditure goes up to one lakh, we feel, that it is worth incurring.

Paragraph 12.-Work load on the revenue establishment.

Incidentally, we have examined whether the existing administrative staff is adequate for revenue work and whether the jurisdiction of the Tahsildars and Revenue Inspectors is manageable.

2. The work load on village officials and revenue officers, from Revenue Inspectors to Collectors, has increased, by leaps and bounds, in recent years. In Nellore district, one officer informed the Committee that the co-operation of Village Officers was wanting in the collection of taxes on commercial crops and also in the collection of loans due to the Government as they had been overworked owing to various categories of taxes being introduced from time to time. work of village officials is likely to increase further when recommendations of this Committee are given effect to. Firkas are usually too big for Revenue Inspectors to manage. practice the revenue work is being relegated to a secondary place by officers who all along were doing revenue work. Work of subdivision consequent on sale, partition or change status, i.e., from dry to wet and vice versa and keeping revenue registry up-to-date is being badly neglected. ryots are not able to secure loans-Land Improvement or Agricultural—as the registry is out of date. Encroachment, azmoish and remission work are not receiving adequate attention due to increasing extra work. Land reforms require an accurate record of the actual cultivator, his status, etc. Lack of efficient revenue administration will impede general development in the village and will quite often lead to village feuds.

- 3. The variety and range of Revenue Officers' work to-day is one that the original framers of the set-up could not have visualised. Tahsildars have now to spend considerable time with prominent members of the public and officials. They do not have sufficient time for their outdoor and indoor revenue work. In our enquiry at Hyderabad one officer has informed the Committee that Tahsildar is able to spend only one-fourth of his time to revenue work and only 10 per cent of the expected work is being turned out by him. Revenue Divisional Officers have also to contact the ryots in large numbers and it has been brought to our notice at Hyderabad that only 50 per cent of the Revenue Divisional Officer's time is spent on revenue work. Collectors are overburdened with work and do not have adequate time to contact the public.
- 4. We are of the view that there should be adequate number of Revenue Officers to attend to the revenue work. Otherwise there would be loss to the exchequer. We consider that it is imperative that the whole set-up, should be reorganised to meet the demands of the present concept of the administrative machinery of the Revenue Department and that it should be possible to do so without increasing the cost to the exchequer of the State if different agencies now working at village, block, taluk and district levels are integrated by suitably distributing the load of work and responsibility.
- 5. We are of the view that the Collector should continue to be the Chief Civil Administrator of the district and to achieve this end, he should be given an assistant who should be an officer in the run for a Collector's place and who might dispose of most of the administrative and statutory items of revenue work. This Officer may be called Joint Collector and should be subordinate to the Collector. We further feel that the designation of the Collector of the district might be changed as Civil Administrator.
- 6. The designation 'Civil Administrator' is much more appropriate than "Collector" to an Officer who is the head of the district and guides all the other officers of different departments in the district.
- 7. We recommend that the methods of work in the set-up should be examined, in detail, by a special committee. The time is now very opportune as revenue laws in both the regions of the State are being integrated. Along with integra-

tion, the frame work should be modified to suit present day conditions. We also recommend that the jurisdiction of the Revenue Inspector, Tahsildar and Deputy Collector might be reduced and he should be made responsible for the discharge of the various items of revenue work instead of appointing special officers. Normally a district should comprise 4,000 sq. miles and those which are bigger should be bifurcated. We are of the opinion that supply of small machines like 'Addressograph', numbering machines, 'Addition and multiplication instruments', etc., will be very beneficial to the various offices in the State and that these will eliminate the enormous expenditure spent on the establishment for routine work.

8. These measures are recommended to ensure efficiency and close contact with the people who can look to one officer for redress instead of being tossed from pillar to post and post to pillar.

Paragraph 13.-Village Communications.

For economic development, good roads are absolutely essential. This is universally accepted; and if good roads connecting all villages have not yet been laid, it is primarily because of want of resources. Laying of a road consists of aligning it, acquiring the land which very often belongs to private landholders, and finally laying of the road itself. The cheapest of these is the alignment; and next, in the order of cost is the acquisition of the land. Normally, the price of the land is rising and, therefore, to the extent to which we delay the acquisition of land for this purpose, to that extent the cost will go up. What is just now needed is not a pucca road for motor vehicles to ply comfortably but a village road which would allow a bullock cart to pass with reasonable ease during all seasons of the year. Cart-tracks that connect the villages now have not been aligned by any qualified person or persons and, therefore, very often they become impassable during monsoons. Subsequent to the formation of these carttracks, land on either side of it has sometimes been brought under irrigation, with the result that the track itself is slushy. sometimes knee-deep, making movement of even a bullock cart impassable. There is no doubt plans are being made for connecting each village to the nearest road by at least a semipucca cart-track during the Third Five-Year Plan. But looking at the enormity of the problem, one begins to doubt whether our resources would be enough for the achievement of such an ambitious programme. What we would suggest is that the roads connecting each village to the nearest Public Works Department road may be aligned according to correct Highway principles and the land may be acquired.

2. The next job would be to construct culverts and road dams of a very rudimentary type across water-courses and wet lands. Where there is black cotton soil, rubble soling may be given. If this much is done by the Government, the work of maintaining the rest of it in a reasonably good condition may be left to the initiative of the local people. Indeed, if private lorries were allowed to ply on these village roads, they may in their own interest maintain them in good order. There are funds available under local development works and under Community Project and National Extension Service which can be diverted to improve and maintain village communications. All these are possible only if the roads are correctly aligned, because alignment itself improves a road from 30 to 50 per cent; and any further investment on this aligned road would reduce the ultimate expenditure to convert it into a pucca road-way. The alignment may not cost more than Rs. 100 a mile and acquisition of land would cost as much as the value of about 8 to 12 acres of land in that vicinity. It is very necessary that efforts in the next few years should be concentrated on this particular item, so that we may at least have in the next few years a net-work of village roads, over which at least bullock carts could travel with reasonable ease.

CHAPTER IX.

Paragraph 14.—Suggestions to accelerate development of Irrigation, under projects and drainage works.

Sri J. Ragotham Reddi, a member of our committee has submitted a note for the consideration of the committee and it is incorporated in Appendix 11. After a thorough discussion, we are in general agreement with the valuable suggestions made in the note. We feel that it is necessary that estimates for developmental activities also should be got prepared along with the main estimate for the project, so that the development of the ayacut might commence and proceed simultaneously, with the work relating to the construction of the project works, dam, head-works and canals. Then only, it would be possible to utilise the benefits of the project from the first year in which water is let out for irrigation. strongly recommend to the Government to accept Sri J. Raghotam Reddi's suggestions, in his note and issue suitable instructions to the Chief Engineers and the Administrators, in charge of the execution of the projects.

2. Sri J. Raghotham Reddy has submitted another note which is included in Appendix 12. In this he deals with priorities to be given to the construction of irrigation improvement and drainage works. We have considered them and are in general agreement with the views expressed by him. We recommend that the Government may give preference and undertake the construction of drainage and improvement works, the cost of which is proposed to be contributed by the public either in full or in a large portion of it, provided that three-fourth of the persons who hold not less than two-third of the area to be benefited, agree voluntarily to pay the contribution. In such cases, the Government should waive the collection of betterment contribution.

CHAPTER X.

Paragraph 1.—Existing standardized dry assessments to continue.

The fertility of the soil and the quantum and distribution of rainfall are important factors in determining the yield from dry lands. In the case of wet lands, besides these two factors, the assured water supply confers additional benefits on yields and incomes. For wet lands, water is drawn from a reservoir or tank and applied to the land, whenever it is needed and in adequate quantities, but dry lands have to depend solely upon the precipitation from clouds. Rains may not always occur in proper time or in adequate measure. Thus the total quantum of rain and its distribution should both be taken into consideration, in fixing the dry assessment. A rainfall of about 35 inches, may be generally quite adequate for dry crops, but the rainfall is practically useless, nay injurious if it is concentrated within a fortnight or a month. In Vikarabad taluk, for instance, though the total annual rainfall is about 35 inches it is all precipitated in the south-west monsoon and often affects adversely the dry crops. The total absence of rain at a later stage also affects agricultural production seriously. Even a smaller quantity of rain, if properly distributed will result in beneficial effects. There are areas which do not receive either adequate rainfall or enjoy the advantage of proper distribution. These lands suffer most. There is no doubt, the human factor, which has also to be taken into Some farmers, in particular areas, have learnt better methods of cultivation and are able to produce much more than people in other regions. Since there has been an increase of irrigation in these days, all manurial resources have been diverted away from dry lands to irrigated lands. The available waste lands have all been assigned and the forests have

been partly denuded. The dry land-owner is compelled to keep a part of his holding fallow for the needs of his cattle which in earlier periods were met by the Government waste lands and forests. Though it cannot be said that all the dry lands, all over the State, have progressively deteriorated in quality due to continuous soil-erosion and cropping, yet considerable portion has been so affected. It is also not easy to control the pests and diseases on vast extents of dry Groundnut, castor and cottonseed-cake which are the products of dry lands generally go to fertilize irrigated lands. while large cuantities of plant nutrients are taken out of the soil little is returned to it. Dry farming is said to yield net income of not more than 20 per cent of the onlv total yield, when ryots grow ordinary dry crops, and only a little more could be saved, by raising commercial crops. Even then, they have to pay extra multiple taxes. On the whole, it should be admitted that the incomes of the dry land cultivators uncertain. The Government, in memorandum 22594/G-58-2, Revenue, dated 28th February 1958 have warded the suggesions made by Sri N. C. Rami Reddy, member of State Planning Advisory Committee, for our consideration. His suggestion is that in famine areas like Vayalpad taluk no upward revision should be made in the land assessments. We have visited the districts of Nellore, Chittoor and Kurnool where rainfall is precarious or scanty. These areas are subject to famines or frequent scarcity conditions. We found that even in regions of fairly low rainfall as in Palnad and Ongole of Guntur district or Atmakur of Kurnool district, for example, there are very fertile dry lands which yield good crops. Soils have been classified during settlements into alluvial, black, red and sandy soils with care. In addition to this, their yields have also been ascertained during the previous settlements and it is only upon these data, that the rates have been fixed. would, therefore, work a hardship to the ryots in other regions of the State, if we base our recommendations on the present level of assessments in districts like Guntur and extend the same to similar soils in the entire State. On the other hand, it will not be proper to reduce the rates in Guntur district, so as to bring them down to the level of rates prevailing in less favourably situated districts, as the yields are high enough to bear the assessment. The soils, in some of the taluks of Guntur, are on the whole very fertile and the yield is often three or four times that of dry lands in other districts. Some taluks in Rayalaseema and in Telangana, receive neither adequate rainfall nor in proper time. Lands in Rayalaseema and in districts

like Mahaboobnagar cannot be compared with those in Guntur or the Deltas and assessed at the same level. There is a very wide range in the productivity of dry lands. Failure of crops, once in three years, appear to be a normal feature in Rayalaseema and Telangana. A statement showing the average rainfall for the Andhra Pradesh from 1915 to 1957 with the normal rainfall is given in Appendix (13).

2. The factors of soil fertility and rainfall were fully considered in determining the assessment on dry lands, in the earlier settlements, in both the regions. During revision or resettlement operations, only percentage enhancements were made and therefore the dry assessment continued to be levied on the basis of the fertility of the soil and the distribution of rainfall. The soil classification of both the Andhra and Telangana districts was made systematically, scientifically and with meticulous care. It is therefore not necessary to change the classification of soils, as it was only based on sound and uniform principles. We have also considered the feasibility of reducing the multiplicity of rates for dry areas by classifying the soils into four grades—as we have done later while recommending the table for water rates—and applying the quantum and distribution of rainfall in various regions, with a view to simplifying the classification. We found that if such a simplified system is adopted some of the areas which are well known for their fertility had to be placed on the same level with those that are generally known to be only of moderate fertility. Obviously, the factor of inherent fertility of soil which had been estimated with great care in previous settlements cannot be disregarded. While human effort, good cultivation and proper manuring can certainly go a long way in improving the vield, the initial advantage of an inherent fertility of the soil still plays a very important part. We, however, found that there is not much variation in the incidence of the dry rates between the Andhra and the Telangana regions. In this connection, we have also examined whether there are any conflicting principles, in the method of calculation of dry ments, which could be eliminated and found none except that in Telangana region, an allowance in annawari called 'Milewar' is made for all classes of lands situated at a distance from village site. For every distance of half a mile beyond first furlong from the village, a half anna value of field is reduced upto a maximum of four annas. In the Andhra region, there is no such schedule of deduction, although the distance from the village-site is one of the factors, taken into account, for reducing the sort suitably at the time of the classification of soils.

3. The following table shows the existing range of dry assessment in the various tracts of the State.

ANDHRA REGION.

Name of the district or tract.						Range of assessment.		
						From	To.	
						Rs. np.	Rs. np	
1. 2.	Srikakulam Visakhapatn	am plains	}	•••	•••	0.44	3.58	
	Palakond	a agency		•••		0.19	2.37	
	Gudem as	gency		•••	•••	0.19	3.00	
	Polavara	m agency		•••	• • •	0.31	0.75	
	Yellavara	m agency				0.31	2.81	
3.	East Godava	ari (3			
4.	West Godav	ari	}	Delta		0.31	3.50	
5.	Krishna	•						
	East God		131	Upland				
	West Go	davari				0.31	5.06	
	Krishna		Te	Upland	•••	0.31	2.37	
6.	Guntur	•••	सन्दा	Delta.		0.25	2.50	
	do	•••	•••	Upland	•••	0.31	3.75	
	Vinukono		•••	•••	•••	0.25	2.50	
	Ongole ta	ıluk.	•••	•••	•••	0.31	4.75	
7.	Nellore	•••	•••	•••		0.25	4. 50	
8.	Kurnool	•••	•••	•••	•••	0.25	4.00	
	Alur, Ado	oni taluks	•••	•••	•••	0.25	4.00	
9.	Cuddapalı	•••	•••	•••			2.81	
10.	Chittoor	•••	•			0.25	4.00	
		•••	•••	•••	•••	0.25	3.37	
11.	Anantapur	•••	•••	•••		0.12	2.81	
	Kadiri ta	luk	•••	•••	•••	0.12	2.00	

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TELANGANA REGION:

Name of the district	Rang	Range of assessment.				
or tract.		From	To.			
		Rs. nP.	Rs. nP.			
1. Adilabad.	•••	0.16	2.24			
2. Hyderabad.	•••	0.17	2.47			
3. Karimnagar.	•••	0.17	2.47			
4. Khammam.	***	0.17	2.14			
5. Mahbubnagar.	• • •	0.17	$2 \cdot 24$			
6. Medak.		0.27	2.47			
7. Nalgonda.		0.22	2.52			
8. Nizamabad.	a	0.17	$2 \cdot 35$			
9. Warangal.	?	0.16	2.03			

4. The average dry assessment for Andhra region works out to Rs. 1-2-0 per acre whereas it is Rs. 1-1-0 in the case of Telangana region after eliminating the allowance under milewar hitherto given. There is justification for the higher average of one anna in the case of Andhra region, in view of the superior type of soils in the deltas. Apparently, there is no real disparity in the incidence of dry assessments in the Andhra and the Telangana regions. The rates are uniform subject to the potentialities like the fertility of the soil and the quantum and distribution of rainfall. We have compared the dry assessment on the chalka lands of Telangana which are similar to the assessment on red ferruginous lands of Andhra region situated in places having similar advantages. We have also compared the 'regad' soils which are known as black-cotton soils in both Andhra and Telangana regions. We found practically no difference in the pitch or incidence of dry assessments between the two regions. The differences due to the settlement and resettlement having taken place at different times with different ranges in the price level, have already removed in Andhra region by the Andhra Land Revenue Assessment (Standardisation) Act, 1956 and by the Hyderabad Land (Special assessment) Act, 1952 in the Telangana region. At this stage, to go into the question of revision of dry assessment by soil reclassification, in any one of the regions or both the regions would mean wasteful labour and expenditure with

no corresponding advantage. We agree to leave the dry rates, as standarised recently, with the only modification of the abolition of "mile-war deductions" in Telangana and recommend that it would be enough if they are reviewed once in five years on the basis of price fluctuations and other agro-economic factors.

- 5. We are recommending in a later chapter that, in future, no land should be registered as wet and that all the lands now classified in the revenue accounts as 'wet' need only be registered as dry classifying them into four kinds of dry lands.
- 'A' Class dry lands will be those which now stand registered in the revenue accounts as compounded double crop wet land or double crop wet land and for which there is an assurance of water supply for raising two heavily irrigated wet crops or a dofasal crop.
- 'B' Class dry lands will be those which now stand registered in the revenue accounts as single crop wet lands and for which there is an assurance of water supply for raising a single heavily rrigated crop of not more than six months duration.
- 'C' Class dry lands will be those which are now included in the dry irrigated zones of projects and for which there is an assurance of water supply for raising one dry crop with light irrigation.
- 'D' Class dry lands will be those which are not entitled to any supply of water but include manavari, asmanitari and Kariveda lands.

The irrigation of A, B & C class dry lands is compulsory and not optional.

6. In the case of all lands in the Andhra region, the class and sort of soil is available for each field and applying the dry group of the village, the corresponding dry assessment of the land could be worked out. The dry assessment of all the fields now registered as wet can be fixed by the revenue officers without any elaborate working. In the Telangana region, the soil classification and milewar deductions, are not available in the Sethwar or village settlement register, but they are available in the district offices. As the 16 annas rates for dry and wet are available, the corresponding dry assessment for irrigated lands could be worked out on the basis of wet bhaganna value already fixed, but excluding the milewar

deduction. There is also need to eliminate the milewar allowance given to all the lands because we feel that if the milewar concessions, as it exists in Telangana, is allowed to continue, without a corresponding provision for Andhra region, it only results in continuing the disparity in the incidence of the land revenue assessment. The Director of Settlements and his Deputy who were examined by us stated that the dry assessment of all the lands in the Telangana region can be refixed on the principles recommended by us with the help of records available in the district offices without going to the field and that this work might engage the entire settlement staff for four months. We therefore think that the calculations to arrive at the dry component of the wet assessment on the wet lands in both the regions would not involve undue expenditure or labour.

7. We also consider that it is necessary to get the settlement registers of Andhra region known as diglotts and the sethwars of Telangana region re-written in a common form, with reference to our recommendations, through the agency of the Revenue and Settlement departments, printed and supplied to the village officers. We find that the diglott register of the Andhra area is more comprehensive and appropriate than the sethwar register of Telangana. We therefore recommend the adoption of the former for the whole State with the additions. Additional columns are necessary to show the new soil grade, class of source and the corresponding water charge besides the corresponding dry assessment. Copies may also be made available for sale to the ryots.

Pargaraph 2.—Proposals for the revision of assessments levied under.

- (1) The Andhra Land Revenue Assessment (Standar-dization) Act, 1956;
- (2) The Andhra Land Revenue (Additional Wet Assessment) (Andhra Predsh Amendment) Act, 1957.
- (3) The Andhra Pradesh Land Revenue (Surcharge) Act, 1957;
- (4) The Andhra Pradesh Commercial Crops (Assessment) Act, 1957;
 - (5) The Madras District Boards Act, 1920 and
 - (6) The Madras Elementary Education Act, 1920.

In Chapter XIII of our report, we have recommended that the existing system of levying consolidated wet assessment, in which the water charge is granted in the land revenue assessment, fixed on the basis of yields should be abolished and that dry assessment and water charge should be charged separately for irrigated lands in future. According to the Andhra Land Revenue Assessment (Standardization) Act, 1956, standard rate of assessment is levied in Andhra region as follows:—

- (a) In respect of (1) the Kadiri taluk of Anantapur district, (2) the Madanapalle and Vayalpad taluks of Chittoor district, (3) the Cuddapah district, (4) the Guntur district, (5) the Kurnool district excluding the Adoni and Alur taluks, (6) the Nellore district and (7) the Srikakulam district excluding the Bobbili, Cheepurupalle, Palakonda, Parvatipuram, Patapatnam and Salur taluks—the current rate of assessment together with an addition of Re. 0-0-6 in the rupee of such assessment, in the case of wet lands and Re. 0-2-0 in the rupee in the case of dry lands.
- (b) In respect of (1) the Chittoor district excluding the Madanapalle and Vayalpad taluks, (2) the Bobbili, Cheepurupalle, Palakonda, Parvatipuram, Patapatnam and Salurtaluks of Srikakulam district and (3) the Visakhapatnam districts—the current rate of assessment together with an addition of 3 pies in the rupee of such assessment in the case of wet lands and Re. 0-1-0 in the rupee in the case of dry lands.
- (c) In respect of the Anantapur district excluding the Kadiri taluk, (2) the East Godavari district, (3) the Krishna district, (4) the Adoni and Alur taluks of Kurnool district and (5) the West Godavari district—no additional assessment has been levied.
- 2. Under the Hyderabad Land (Special Assessment) Act, 1952, Re. 0-1-0 per rupee in the case of wet lands and Re. 0-2-0 per rupee in the case of dry lands are levied in addition to the existing assessments in Telangana region, in districts which are due for a revision of settlement.
- 3. In view of our recommendation, for abolishing the consolidated wet assessment, we recommend that the standardized assessment levied on wet lands in the Andhra region and the Special Assessment levied on wet lands in the Telangana region may be abolished and that the two acts may be repealed to that extent.

- 4. Further, according to the Andhra Land Revenue (Additional Wet Assessment) Act, 1956 as amended by the Andhra Land Revenue (Additional Wet Assessment) (Andhra Pradesh Amendment) Act, 1957, an additional wet assessment at the rate of thirty-seven and a half of land revenue has been imposed in respect of all wet lands in Andhra region served by any Government source of irrigation, with the exception of lands irrigated under wells, spring channels and rainfed tanks, which derive supply of water from a source other than a river and which ordinarily receive supply of water for a period of less than eight months in a year. The levy of additional wet assessment is, however, subject to certain conditions viz., that the land revenue assessment payable in respect of the land shall not exceed Rs. 13.50 nP., in case of single crop wet lands and Rs. 20.25 nP., in case of double crop wet lands and also subject to the condition that if the land revenue assessment payable in respect of any land is higher than the maximum specified above, only maximum specified shall be collected. We recommend that this Act may also repealed, as according to our recommendation there will not be any lands classified as wet, in future.
- 5. Under the Andhra Pradesh Land Revenue (Surcharge) Act, 1957, surcharge is levied on the land revenue at the following rates.—

Amount of land revenue.	Rat cho	e of sur- arge per rupee.
Rs. 10 or less		Nil.
Exceeding Rs. 10 but not exceeding Rs. 100		0-13 nP.
Exceeding Rs. 100 but not exceeding Rs. 500		0-25 nP.
Exceeding Rs. 500		0-50 nP.

6. Though the surcharge is levied as an element of progression in the system of land revenue assessment, it is hitting even the poor ryots having uneconomic holdings. The real object of this tax should be to obtain larger contribution from the persons getting higher incomes from land and to that extent the burden of land taxation should be rendered more equitable than at present.

At present, landholders getting higher incomes for agriculture are not contributing to the exchequer their proper

share. If the taxable slab were to commence from Rs. 10 persons who own even one acre of irrigated land will have to pay surcharge. So we consider that surcharge should be levied only on taxable incomes and thereby reduce the disparity in the burden of tax on agricultural incomes to the minimum possible. We may also state here that under the Indian Income Tax Act, the exemption limit is Rs. 3,6000 and it is, therefore, equitable that there should be a similar comparable exemption in the case of incomes on land. Andhra Pradesh being a State of small holdings, we consider that ryots paying a land revenue of Rs. 50 and less including water charges but excluding land cess and education cess should be exempted from paying any surcharge.

7. As we have recommended elsewhere the abolition of the classification of lands as wet, there will be no wet lands in future. There will be only dry assessment and water charge, when the lands are irrigated. As all the existing wet lands in future will be classified as only dry, and they bear only the dry assessment, we consider that the surcharge to be levied should be on the total of water charge and dry assessment. We, therefore, recommend that in the definitions under the Act, 'Land Revenue' may be made to mean, and include water charge also but not land cess. We recommend that surcharge may be levied on the land revenue assessment at the following rates:—

Amount of land revenue.	Rate of sur- charge per rupee.		
Rs. 50 or less	•••	Nil.	
Exceeding Rs. 50 but not exceeding Rs. 100	•••	0-13 nP.	
Exceeding Rs. 100 but not exceeding Rs. 250		0-25 nP.	
Exceeding Rs. 250		0-50 nP.	
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No cesses should be levied on the surcharge imposed.

- 8. The Andhra Pradesh Land Revenue (Surcharge) Act, 1957 may be amended accordingly.
- 9. Under the Andhra Pradesh (Commercial) Crops Assessment Act, 1957, special assessment is levied on commercial crops as follows:—

						1	per acr	ė.
							Rs.	
(1)	Casurina	•••	•••	•••	•••	•••	1	
(2)	Cotton	•••	•••	•••	•••	•••	1	
(3)	Coconut	•••	•••	•••	•••	•••	2 .	
(4)	Tobacco:							
	(a) Virgina	•••	• • •	•••	•••	•••	3	
	(b) Other va	rieties	•••	•••	•••	•••	1	
(5)	Turmeric	• • •		•••		• • •	5	
(6)	Sugarcane	•••	• • •	•••	• • •	•••	5	
(7)	Plantains	•••	•••	•••	•••	•••	5	
(8)	Chillies	•••	TOLO.	• • •		•••	2	
(9)	Citrus fruit	4034		à		•••	2	
(10)	Groundnut				• • •	• • •	1	
(11)	Betelvines				• • •	•••	5	
(12)	Onions			• • •	•••	•••	5	

- 10. Due to the sudden fall in the prices of turmeric and due to a heavy incidence of pests and untimely and inadequate rainfall for groundnut, the collection of special assessment on these two commodities has been temporarily suspended by the Government.
- 11. The special assessment on the above commercial crops is levied with a view to reduce the disparity in the incomes of the ryots who grow food crops and those who grow commercial crops or other valuable crops. But there is always an uncertainty in the price of commercial crops during the various seasons of the year and the ryots grow these crops only when they anticipate profits. Otherwise, they change over to food crops. Commercial crops are then grown only in normal There are several difficulties in the working of this rotation. Act. At present, the special assessment on commercial crops is levied on the basis of acreage. The Act does not take into consideration the difference in yield per acre, not only from region to region in the State, but also from field to field, and irrigated to unirrigated. Further there is considerable difficulty in estimating the area grown under the different com-

mercial crops correctly, the natural tendency being to minimize the areas under the crops. A tax like this generally leads to manipulation of figures, resulting in unreliable statistics. We, therefore, recommend that the special assessment on commercial crops now levied may be abolished and that the rate of purchase tax levied on these commodities might be suitably increased.

- 12. Under section 78 of the Madras District Boards Act, 1920, land cess at the rate of two annas on a rupee is levied on the land revenue payable by the landholders to the Government in the Andhra region. Similarly under section 135 of the Hyderabad District Boards Act, 1956, local cess is levied at the rate of two annas on every rupee of land revenue payable to the Government in the Telangana region. As these cesses are the main sources of income to the local bodies in both the regions, we recommend their continuance.
- 13. Under section 35 of the Madras Elementary Education Act, education cess at the rate of Re. 0-3-0 is levied on every rupee of land revenue payable by the land owners to the Government in the Andhra region. This amount is collected by the Revenue Department and transferred to the District Board which maintains and runs the Elementary and High Schools. A similar cess is not levied in the Telangana region. With a view to have uniformity in both the regions, we recommend that education cess may be levied in the Telangana region also at the rate of Rs. 0-3-0 on every rupee of the land revenue payable to the Government and that necessary legislation may be undertaken by the Government to that effect.
- 14. Though the education cess is collected from the agriculturists only, the benefits go to the entire population including non-agriculturists. We consider that other sections of the community should also be taxed in an appropriate manner so that the burden might be borne by all the sections of the population evenly. To this end, we recommend that either a new tax should be levied on the non-agricultural population or the education cess that is now recommended for imposition in Telangana should be abolished in the Andhra region also and every one, including land owners, taxed on a new and uniform basis and the revenue thus derived utilized for education.

Paragraph 3.—Advantages and disadvantages of multiple taxes.

The different taxes now levied on land and agricultural produce in Andhra Pradesh are—

- (1) Land revenue on wet, garden and dry lands,
- (2) Land cess,
- (3) Education cess,
- (4) Sales tax or purchase tax on agricultural produce,
- (5) Assessment under the Andhra Land Revenue Assessments (Standardization) Act, 1956,
 - (6) Additional assessment on wet lands,
 - (7) Surcharge on land revenue,
 - (8) Special assessment on commercial crops and
 - (9) Special assessment on land in Telangana.
- 2. Besides these, there is Central Sales Tax on cotton, jute and oil seeds and Central Excise duty on tobacco and sugar. Out of the above taxes, the following are exclusively, in vogue, in the Andhra region:—
- (1) Additional assessment on land revenue levied under the Andhra Land Revenue Assessment (Standardization) Act, 1956;
- (2) Additional assessment levied on wet lands under the Andhra Land Revenue (Additional Wet Assessment) Act, 1956, as amended by the Andhra Land Revenue (Additional Wet Assessment) (Andhra Pradesh Amendment) Act, 1957; and
- (3) Education cess levied under the Madras Elementary Education Act, 1920. Special assessment on land is exclusively, in vogue, in the Telangana region. It is levied under the Hyderabad Land (Special Assessment) Act, 1952.
- 3. The following taxes are common to both Telangana and Andhra regions:—
 - (1) Land revenue on wet, garden and dry lands.
- (2) Special assessment on commercial crops levied under the Andhra Pradesh Commercial Crops Assessment Act, 1957.

- (3) Surcharge on land revenue levied under the Andhra Pradesh Land Revenue (Surcharge) Act, 1957.
- (4) Land cess levied under the Madras District Boards Act, 1920 and the Hyderabad District Boards Act.
- (5) Sales tax or purchase tax on agricultural commodities.
- 4. At present we have as many as nine different taxes on land and agricultural produce. Out of these 9 kinds of taxes, land revenue, land cess and education cess are the oldest, while purchase tax has been in vogue since 1956 and they have come to stay. The taxes which have been levied recently are standardized assessment on land revenue, additional wet assessment, special assessment on commercial crops and surcharge on land revenue. Out of these 9 kinds of taxes, land revenue on wet, garden and dry lands is the primary tax levied on lands. Land cess and education cess are levied on the basis of land revenue and the income is ear-marked for specific purposes. Standardized assessment, additional assessment on wet lands and special assessment on lands are new additions to the land revenue proper. The special assessment on lands levied in Telangana at a rate of one anna per rupee in the case of wet lands and two annas per rupee in the case of dry lands is similar to the standardized assessment levied in the Andhra region. This is levied in areas which are due for a revision settlement in order to equalize the incidence of land revenue on all the ryots. The ryots do not grudge paying land revenue but they are not able to understand the calculations in the case of these several additions to the land revenue proper. is no doubt true that land cess and education cess have been in existence for a long time, although the rate has been increased in recent years. They have to be retained separatly even in future. There is no reason to continue separately the levy of standardized assessment and additional assessment on wet lands. The circumstances that necessitated the levy of the standardized assessment and additional assessment on wet lands are detailed below.
- 5. The pattern of the country's agricultural economy has considerably changed from the time of the initial and resettlements owing to the violent fluctuations in the prices of agricultural produce. The place of land revenue has also changed with the changing character of the economy; progressive

monetization, the development of internal transport, the growing commercialization of agriculture and the general evolution of an All-India Market. The steady rise in local prices, has served to lighten the burden of land revenue. These changes in the pattern of agriculture have resulted in a steady increase in the prices of foodgrains. Thanks to the Second World War, the prices have risen to nearly 4 to 5 times the pre-war level. Those, whose lands had been settled or resettled in one of the earlier periods, are bearing only a lighter burden of assessment than their counterparts whose lands have been settled or resettled later. Disparities of this type have come into existence, due to the abandonment of resettlements. On grounds of equity these disparities have to be minimized by a readjustment of assessment. The assessments have, therefore, been standardized to achieve this aim. It is equally patent that on account of heavy rise in the prices of the materials and in wages and salaries, the cost of construction of new irrigation works and the maintenance of old and new irrigation works has increased considerably. Further other small irrigation schemes such as renovation of tanks taken up by the Government has also contributed to an increase in the expenditure on irrigation. While the rise in the prices of agricultural commodities during and since the War has resulted in rise of cash income to the ryots, the water rates have continued to remain at the same low levels. Thus the revision of water rates has become necessary. It has, therefore, become necessary to raise water rates to an appropriate level. Since assessment on wet land comprises of dry assessment and water rate, the Government have levied additional assessment on wet lands, thus increasing the water rate component of the assessment on wet lands. This is in accordance with the Andhra Land Revenue (Additional Wet Assessment) Act, 1956 as amended by the Andhra Land Revenue (Additional Wet Assessment) (Andhra Pradesh Amendment) Act 1957. Whatever may be the justification for the levy of these assessments, there is absolutely no reason why they should be shown separately.

6. The question for consideration is how far the Government are justified in levying the other taxes and what are the advantages and disadvantages in their levy from the points of view of the cultivator and the Government. Like other States in India, Andhra Pradesh is also engaged in Nation Building activities. In a welfare State, it is the primary duty of the

Government to look after the comforts of the people and raise their standard of living. For this, money is needed and the Government will have to get it by increased taxation; after proper investigation of the taxable surplus. The burden of taxation which a cultivator has to bear should be in accordance with his ability; it should be elastic so as to vary with the climatic and other conditions of the region and the changes in price levels. The main criteria of a sound system of taxation, the ability of the tax-payer, economy in collection, elasticity in procedure, as well as equity in incidence are applicable to incomes from land as well as to all incomes.

- 7. The surcharge on land revenue is intended to introduce an element of progression in the land revenue payable by owners of agricultural land. An ideal thing would have been to follow the recommendations of the Taxation Enquiry Commission, 1953-54, but the practical difficulties inherent in assessing accurately, the agricultural incomes and the dwindling number of land holders earning incomes taxable under the Income Tax Act compelled the Government to choose the surcharge instead. Indeed the agricultural income tax was in vogue in Telangana but low collections and the high proportion of it, needed towards the administrative cost, were powerful factors in influencing the decision of the Government of Andhra Pradesh to opt for surcharge on land revenue. Another feeling grew with the Government. It was that producers of cor, mercial crops were making large profits. the cost of only foodgrains entered into the commutation prices, it was felt that it would not be inequitable to levy an additional tax on areas grown with commercial crops.
- 8. The levy of each of these new taxes may have an independent justification, but cumulatively they have led to a confusing state of affairs at the local level, where the revenue is actually paid and collected.
- 9. We have everywhere been told by the ryots, the Village Officers and the Government servants (Officers), with equal emphasis, that this multiplicity of taxes must go. There were complaints everywhere that taxes have gone up steeply but more than the quantum, it was the manner of computing the demand that was most seriously objected to. We do feel that as long as the same ryot pays to the same Government for almost the same purpose, it would be convenient and administratively less costly to have one tax instead of many, if it could possibly be helped.

CHAPTER XI.

Consideration of alternatives to the existing system of Land Revenue.

This Chapter deals with the question of replacing the land revenue system by sales tax on the sale of agricultural produce, or by a tax on the capital or rental value of land, or by an agricultural income tax or by a sliding scale of land revenue.

Sales Tax in complete replacement of the Land Revenue System.

- 2. The Land Revenue Reforms Committee, Madras, after detailed examination considered that the proposal to replace the land revenue assessment by a sales tax on the first sale of agricultural produce, cannot be accepted.
- 3. The Taxation Enquiry Commission 1953-54 in paragraph 56 of Chapter IV of its report, had stated that the replacement of the land revenue system by sales tax was not feasible on financial and administrative grounds. We agree and we are therefore of the view that the sales tax cannot serve as an alternative to the existing system of land revenue.

Tax on capital or rental value of the land.

- 4. The Indian Taxation Enquiry Committee considered that this tax may be based on—
- (a) the capital value, which is usually determined periodically with reference to the sale value of lands;
- (b) the unimproved or public value, i.e., such part of the capital value as is not due to the efforts or investment of the owners or occupiers;
- (c) the net produce, i.e., the gross produce less the cost of production;
- (d) the annual value, i.e., the gross produce less the cost of production and earnings of management; and
- (e) the net income of the farmers, i.e., the earnings of management plus the value of the labour of the farmer and his family.

- 5. The Land Revenue Reforms Committee, Madras, in paragraph 31 of its report observed, "The majority of opinions expressed in the memoranda received by us are definitely against the adoption of these alternatives. The land revenue system in this State has been evolved over a series of years, and before the system is scrapped and replaced by some other system, it would be necessary for us to examine closely the implications of the alternatives proposed. Both the systems of levy, as a percentage of the capital value or the rental value, involve the difficulty of laborious initial valuation and also the serious disadvantage of the re-assessments necessary, periodically. If the re-assessments are to be done annually, that will be extremely burdensome and expensive; if they are to be done quinquennially, that will not be elastic enough, and in any case, the fact that re-assessment is necessary and likely, would bring in an element of uncertainty as compared with the existing system. The assessing agencies themselves may not have uniform standards and this may lead to inequity of levy as between various areas in this State. These methods will not allow of progression and so will, in that respect, be open to the same criticism as the present system. In any case these schemes will have to rest largely on the existing system of survey and land registers, and so there may not be any saving in cost, but on the other hand the staff for initial assessment and for re-assessment will really have to be extra and will entail additional cost."
- 6. We also consider that the existing system of land revenue cannot profitably be replaced by the levy of a tax either as a percentage of rental value or as a percentage of capital value of the land.

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Agricultural Income Tax.

- 7. The existing system of assessment on land, lacks an element of progression in that a person who owns a large extent of land and enjoys a considerable net surplus from the produce pays assessment only at the same rate as another who has only a small holding which leaves only a small surplus to him. With a view to introducing a measure of progression into the system of land revenue assessment, the proposals for the levy of agricultural income tax is examined in the following paragraphs:—
- (i) The Indian Taxation Enquiry Committee observed in 1925 as follows: "There is no historical or theoretical justi-

fication for the continued exemption from the income tax of incomes derived from agriculture. There are, however, administrative and political objections to the removal of the exemption at the present time. There is ample justification for the proposal that incomes from agriculture should be taken into account for the purpose of determining the rate at which the tax on the other incomes of the same person should be assessed, if it should prove administratively feasible and practically worth while". The position remained unchanged until the passing of the Government of India Act, 1935 and the actual development which then took place was that a separate provincial levy on agricultural incomes became for the first time possible.

- (ii) In 1937, the Marjori Banks' Committee considered the income tax idea to be not practical politics on the ground "that the great number of small holdings and the small amount of the assessment paid by each shows few ryots would be liable to pay anything at all on the basis of income tax, and the amount of worry and annoyance the investigation of the departmental staff would cause may be better imagined than described" but it is not clear whether they were thinking of an agricultural income tax in complete replacement of the land revenue, or of an agricultural income tax over and above the assessment on land.
- (iii) With the advent of the first Congress Ministry in July 1937, the proposal was actively re-examined and it was finally considered to be inadvisable to proceed with the proposal before settling the land revenue policy. The Advocate-General whose opinion was then obtained on the question of legality of the levy of agricultural income tax on incomes accruing from permanently settled estates had opined that such a levy cannot be said to alter the character of the permanent settlements. However in view of the abolition of the Zamindaries this particular aspect of the matter does not now need any examination.
- (iv) In 1943, when the Government of India suggested a levy, or enhancement of the rates of agricultural income tax as one of the measures to check inflation, even those who were prepared to support measure on grounds of principles, objected to the enactment at that particular time on the plea that such a measure should be sponsored by a popular Government and

not by the Advisers' Government. Another objection raised was that the finances of the Government were then satisfactory and so there was no justification for the levy of additional taxation. Yet another objection and possibly the most important one was that an essential pre-requisite to the imposition of an agricultural income tax was that the inequities and inequalities in the present system of assessment should be reduced to a minimum. Once again further consideration of the bill was dropped.

- (v) In 1945, Sri Govindan Nair, an Officer of the Income Tax Department of the Central Government who was asked to investigate into the question of agricultural income tax and the likely yield, estimated a demand of 141 lakhs of rupees on the basis of rates and exemptions indicated in the Agricultural Income Tax Bill of 1947, of the Madras Government. The demand appears to be too high, particularly considering the fact that the exemption limit was then fixed at Rs. 5,000. Then the Zamindari Abolition had not come into effect. 1946, on the advent of the Second Congress Ministry, this question was again reopened and after taking into account the criticisms, on the bill published in 1945, a fresh bill was published in the Gazette on 2nd January 1947. After some discussion, the papers were referred to Sri N. Raghavendra Rao. He observed that the important factor is that the agricultural income is not always steady but fluctuating from year to year, that the yield in this province is not generally good, that it does not compare favourably with the yield in other countries, that improved methods of cultivation have not yet been adopted on a large scale, that with most of the ryots the cultivation is only of a casual nature, that cultivation is not carried on as a business or on commercial scale, that failure of crops is not infrequent, and that a small portion of the cultivated land is protected by irrigation. The rest depends on rainfall which proves to be scanty and undependable and that pests also contribute to the poor yield, and that the value of the yield is to be determined by the price of the raw produce.
- 8. The Special Officer, Sri N. Raghavendra Rao estimated on the basis of net income from the land being four times the land revenue assessment, that the net assessable income would be about two crores of rupees on the assumption that only food crops are grown, and if commercial crops were grown, the net income would be much higher. His estimate was based presumably on Sri K. Govindan Nair's estimate. The considera-

tion of Sri Raghavendra Rao's report itself had been deferred pending the report of the Madras Land Revenue Reforms Committee, 1951. The Committee did not recommend the levy of agricultural income tax in any of the following ways in complete replacement of the existing system of land revenue.

- (a) An agricultural income tax with a lower exemption limit but no other charge of any kind whether it be assessment or water rate on the land, or
- (b) as in (a) above, but without exemption limit whatever, or
- (c) an agricultural income tax with a lower exemption limit, no assessment being levied on land, but water rates being collected for water taken from a Government irrigation source,
- (d) the levy of an agricultural income tax over and above a 'flat rate of land tax' plus water rate.
- 9. The Madras Land Revenue Reforms Committee was however, of the opinion that an agricultural income tax can properly be conceived only to be super-imposed as a factor of progression, in the scheme of suitable assessments on the land. They also observed, "that progression is necessary and justifiable cannot reasonably be denied, and we consider that, in principle, the levy of an agricultural income tax would be a proper way of securing a measure of progression in the scheme of land revenue assessment". In paragraph 121 of the report of the Madras Land Revenue Reforms Committee stated that the immediate implementation of the above principle throughout the agricultural sector, plantation areas excepted, would give rise to a degree of hardship among the agriculturists which, in its view, it was essential to avoid at that juncture. It further stated in the same paragraph as follows:—

"There is a fundamental difference in the maintenance of accounts, in the running of a business and in the running of a farm. In business, accounts have necessarily to be maintained, more or less systematically, to record each transaction as and when it takes place, but in agriculture it would not be essential except for purposes of the income tax. In the case of farmers, the overwhelming majority of whom, including large farmers, are illiterate, maintenance of

accounts in a form which would satisfy the officers of the Income Tax Department would give rise to insuperable The effect would be to force them to employ an difficulties. accountant. That would constitute a serious additional burden to agriculturists if we consider the wages or salary to be paid all through the year to a competent and reliable account-They cannot leave matters entirely in the hands of the accountants they employ either, and they will have necessarily to exercise a close supervision over the accountant's work. All this would distract the farmer's attention thus affecting the return he gets from the land which are developments to be avoided at the present juncture when it is imperative to focus the farmer's undivided interests on food production. On all these considerations, we are of the view that there should be no immediate levy of an agricultural income tax in the agricultural sector (except in plantation areas, which we deal with below)".

- 10. It can, therefore, be stated that the recommendations of the Land Revenue Reforms Committee, Madras, that agricultural income tax can be levied over and above the land revenue assessment is not applicable to Andhra Pradesh as there are no plantations. Further, the difficulties explained by them in introducing the system in the agricultural sector other than plantations exist even in Andhra Pradesh.
- 11. The Agricultural Income Tax was being levied in the Telangana area under the Hyderabad Agricultural Income Tax Act, 1950. (Act XIII of 1950) at the following rates.—

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pies in the rupee.

(1) On the first Rs. 2,000 of total income.

Nil

(2) On the next Rs. 3,500 of total income ... 9

(3) On the next Rs. 5,000 of total income ... 18

(4) On the next Rs. 5,000 of total income ... 36

(5) On the balance of the total income ... 48

Particulars of Revenue and the cost of Collection under Hyderabad Agricultural Income Tax Act, 1950.

Year.	Т	'ax levied.	Tax collected	Cost of collection.
		Rs.	Rs.	Rs.
1950-51	•••	1,07,614	18,964	Nil.
1951-52	•••	17,70,195	12,02,050	Nil.
1952-53	•••	4,52,347	2,04,550	22,161
1953-54	•••	5,83,131	2,26,466	55,304
1954-55		8,17,784	2,37,289	51,595
1955-56	•••	6,81,771	80,654	51,124
1956-57	•••	12,17,534	80,132	Nil.

- 12. Consequent on the abolition of Jagirs the size of the larger holding dwindled and the revenue under the act diminished. In view of the above consideration and in order to have uniform taxation both in Andhra and Telangana the Government have enacted the Andhra Pradesh Land Revenue Surcharge Act, 1957 repealing the Hyderabad Agricultural Income Tax Act, 1950.
- 13. The estimated yield on account of agricultural income tax is about rupees six lakhs in Andhra area. The size of holdings is bound to go down with the impending Land Reforms and the fixation of ceilings on agricultural incomes. The levy of agricultural income tax, therefore, will not bring in any sizable revenue. On the other hand, there will be many administrative difficulties and also some harassment. Besides, there would be difficulty in ascertaining the correct incomes in the absence of proper accounts from the ryots. The Subramanyam Committee did not consider it worthwhile to levy agricultural income tax in complete replacement of the existing system of land revenue. For all these considerations, we consider that it is neither feasible nor practicable to levy agricultural income tax either as an alternative to the existing system of land revenue or in addition to it.

Sliding Scales of Assessment.

14. This system was prevalent only in two districts in the Punjab. Its object was to enable the Government to alter its demand with the rise or fall of prices and to adjust this demand at each harvest to current prices. Following are the

chief features of the system as stated by the Punjab Land Revenue Committee (1938) in Chapter 52 of its report.

- (i) "The land revenue rates for each assessment circle based on commutation prices are the maximum rates payable during the term of settlement but the demand at each harvest due under these rates is not collected in full unless the general price level of the chief staple products of the district during the marketing season of the two preceding harvests is at least as high as the commutation price level.
- (ii) if it is lower, revenue payers are entitled to a proportionate remission, however much lower it may be.
- (iii) As stated above the remission to be allowed is based on the prices current during the marketing season of the two preceding harvests. It is not based on the prices of the actual harvest, because the land revenue is payable before the marketing of the crop is complete and the season's prices are fully available.
- (iv) Remissions are granted in terms of half-anna per rupee of land revenue. In other words, they will be in units of three and one-eighth per cent of the full demand e.g., three and one-eighth per cent, six and one-fourth per cent and 12 and half per cent and so on according to prices. This makes it easy for revenue payers to check the amount demanded from them.
- (v) The demand on each holding is first calculated at full rates and the remission allowed is then deducted from it. The balance is the net amount due. In paragraph 106 of its report, the Committee came to the conclusion, that it would be unwise to extend the sliding scale system to the remaining districts in the State for the following among other reasons:

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- (1) The system is very costly.
- (2) It would give no more relief to the small holder than to the large.
- (3) It could only be done on the basis of the Commutation prices in each district, and this involves considering only one of the many factors that enter into a settlement. To consider the other factors at the same time would virtually mean a resettlement and if this were done in the office it would be open to the gravest objection. On the other hand,

if the other factors were not considered it is bound to lead to inequality and injustice not merely between district and district but also between village and village".

15. We are in complete agreement with the observations made by the Punjab Committee, after gaining actual experience of the working of the sytem, and, therefore, do not recommend the introduction of the sliding scale system.

CHAPTER XII.

Paragraph 1.—Fixing land revenue assessment on the basis of gross produce or net produce and comparative study of the problems in other Indian States.

In India, the State's claim to a share of the produce from the land has been recognised from the earliest times. present land revenue systems in India, are a direct heritage from former Governments. The modifications under British Government have been few but important, the tendency has been to recognise the local customs prevailing at the time of the codification of any law regarding land. The earliest inhabitants of India, known to anthropologists as Kolarians, recognised patriarchal or family system. The proprietary rights in the land vested in the family or tribal organization by whose labours, the land had been cleared or reclaimed from the jungle. Their institutions were democratic. The chiefs, though they held larger and more fertile holdings claimed no tribute or revenue as a matter of right and only accepted gifts. This democratic instinct is still ingrained among Kols and Sonthals who cultivate jungle land without anybody's permission. The Dravidians, who followed the Kolarians, extended the system of their predecessors. They permitted the proprietary rights in the land to vest in the actual cultivator. The king, however, collected a certain share of the produce from all holdings except those held by priests, military officers and others rendering service. The Aryans who followed the Dravidians continued the land system of their predecessors and recognized the reclaimer of land from jungle as the true proprietor and all land holders, except priests, Kotwals and others who rendered service, paid a portion of the produce of the land to the king. The Hindu system never recognised the king as the proprietor of cultivated land but only as a protector and overlord. The Mohammaden conquerers adopted generally the system of their predecessors. The first important change was made by Akbar, who substituted cash payment for payment in kind.

It was during the decadence of the Moghal Empire, that petty chiefs, Rajas and Jagirdars rose into power. It became necessary for the British Government, to recognize these magnates and accept annual tributes from them. Another class of people who rose into power are those, to whom the Moslem Governments farmed out the right to collect revenue. They retained a certain share of it for the work involved, which was afterwards known as 'Malikana'. This is origin of the class of zamindars. The Permanent Settlement fixed, permanently the maximum revenue that the British Government could collect from the zamindars.

- 2. The basis adopted by different States in calculating Land Revenue are as follows.—
 - (1) Net assets or economic rents.
 - (2) Net produce or annual value.
 - (3) Empirical.
 - (4) Rental value.
 - (5) Capital value and
 - (6) Gross produce.
 - (1) Net assets or economic rents.
- 3. This method of assessment is in force in the Punjab, Uttar Pradesh, Madhya Pradesh, Pepsu, Himachal Pradesh, Ajmer and Delhi. This method was also followed in the temporarily settled areas of Bihar, Orissa and West Bengal. By net assets or economic rents, is meant, "the estimated average annual surplus of an estate or group of estates remaining after deducting the ordinary expenses of cultivation as ascertained or estimated".

(2) Net produce or annual value.

4. Madras and Andhra are the only States in which this method is in vogue. The average outturn per acre of the staple food crops for different kinds of soil is first determined, on the basis of crop experiments and elaborate enquiries in the fields. The gross value is then worked out on the basis of commutation rates, *i.e.*, the average price of the preceding 20 non-famine years. The net produce or annual value is then derived by deducting from gross value the cultivation

expenses and also making certain allowance for seasonal conditions. The cultivation expenses include expenses on ploughing cattle, agricultural implements, seeds, manure, wages of labour required for ploughing, transplanting, weeding, harvesting and thrashing.

(3) Empirical Method.

5. Under this method, the aggregate amount of assessment is first fixed for a tract and then distributed over the villages and the individual survey numbers by means of maximum rates for the various classes of lands. Several factors are taken into consideration by the Settlement Officer at the time of settlement or revision and the assessment is ultimately based on the subjective impressions of the Settlement Officer. He will then examine the economic background of the tract and find out whether the area under cultivation and occupation has increased or decreased and whether the material condition of the people has improved or deteriorated. He will also take into consideration the proximity of the markets, the facilities of communication, the fluctuations in the prices of the main staple food crops and the land values of the tracts under settlement. This method of assessment is, in vogue, in Bombay, Telangana of erstwhile Hyderabad, Mysore, Bhopal, Manipur and Tripura States.

(4) Rental Value.

6. Except in Madras and Andhra, the main emphasis in many other states, is on rental value. Though the basis of assessment is net assets or is empirical, the general method adopted is to ascertain the actual rents received by the land holders and then to fix the assessments, after allowing certain deductions.

(5) Capital Value.

7. Though this basis has not been adopted for assessment in any state of this country, yet in practically all the States, the sale and mortgage values of the land formed one of the factors taken into consideration, at the time of settlements or resettlements.

(6) Gross produce.

8. This method formed the basis of assessment, in almost all States in India before the more scientific methods were evolved. This method is still in vogue in Assam and the

maximum limit of assessment, for any tract has been fixed at 10 per cent of the value of the gross produce of that tract.

- 9. Many of the complexities of the land revenue systems in India can be traced to the fact that the Indian systems are the result of a gradual process of evolution from indigenous practices and that they have been moulded into their present shape by British Officers, quite independently of one another, to suit local circumstances in different States.
- 10. The ryotwari system was, in a state of flux, till 1885, when the inequalities and weight of the assessment and the incessant but unsystematic reductions, compelled the then Madras Government, of which the present Andhra region was a part, to introduce a new survey and revise the assessment, chiefly with a view to give adequate relief to the ryots. the middle of the 19th century, the assessment was based on the gross produce of the land. Later on with the introduction of settlements, the assessment was based on the net produce of the land. The subject, whether the fixing of land revenue should be on the basis of gross or net produce received the attention of the Government of India in the year 1902 on a complaint made by R. C. Dutt and some others. The Government of India obtained detailed reports from the State Governments and passed a resolution in regard to the policy to be adopted by them. The Madras Government while submitting its report considered that the principle of taking the Government's share of the net produce, i.e., half of the net produce was practicable and more favourable to the ryots than taking a share of the gross produce. The Board of Revenue, Macras in its resolution No. 542, dated 6th December 1900 reported as follows.—

"It will further be clear that since the settlement allowance for cultivation expenses and the consequent calculation of the "net produce" are not "ruinous to the cultivation of the poorer class of lands", no sufficient ground has been made out by Mr. Dutt for his suggestion (paragraph 13) that in future revisions "one-fifth of the gross produce and not half of the net produce be accepted as the maximum of rent" or rather "assessment". For 36 years, without interruption, the 'half-net' principle, based upon years of discussion and ordered both by the Court of Directors and by successive Secretaries of State, as being more fair to the poorer lands, has been adopted and the settlement of every district is now based upon it; to go back to the method of taking share of the

gross would be, exactly, to reintroduce uncertainty. In 1856, the Court of Directors declined to accept the Madras Government's proposal, to take 30 per cent of the gross produce as basis of the maximum demand, observing that, "in lands of high degree of fertility, possessing every means of communication and in the neighbourhood of good markets, 30 per cent of the gross produce may fall considerably within the limits of the rent or net produce; in lands less fertile and less favourably situated, a much smaller share of the gross produce might considerably exceed it. The natural and inevitable consequence, as it appears to us, of apportioning the assessment to the gross produce, is to favour the most fertile lands, and to press, with increasing severity, on the poorer land, in an inverse ratio to their fertility". They consequently ordered that the assessment should be based not upon the share of the gross but upon a share of the net produce. In confirmation of the Court's observations.....that on the half-net system, the poorer lands are more favourably treated than the superior lands, i.e., that the cultivation expenses are liberal in proportion to the produce; also that the assessments based on half the net produce are in almost all cases below, in many cases far below, one-fifth of the (nominal) gross produce even at commutation rates.......It is thus clear not only that the ryot is assessed much below 20 per cent of the gross produce on by far the greater bulk of the dry soils, for the highest class of soils are not very extensive but also that the lowest class of soils enjoy progressively lighter rates of assessments under the half-net system. In other words, the cultivation expenses on dry soils and, consequently, the net produce system are more favourable to the poorer than to the richer lands and Mr. Dutt's reason for altering the method of settlement is, therefore, unnecessary and even inadvisable".

- 11. The Government of India considered the reports from the several State Governments and held that the suggestion that land revenue should be fixed as a share of the gross produce was impracticable.
- 12. Even in the middle of the Nineteenth century, the Government of India decided that land revenue should be levied only as a share of the net produce. We are in full agreement with this view. Even in Telangana, the erstwhile Hyderabad Government had this concept in view, in fixing the assessment, although they did not strictly follow the Madras system of calculation of the net produce.

Paragraph 2.—The items that should be deducted from the gross yield to arrive at the net income and the percentage of the net income that may form the proper share of Government, towards land revenue.

Having decided that land revenue assessment should be fixed as a part of the net produce, our reply to the question, whether land revenue should be fixed as a percentage of the net produce, is in the affirmative.

- 2. The points for consideration are: What are the items that should be deducted from the gross yield to arrive at the net yield and (ii) what percentage of the net income should be fixed as the proper share of the Government, towards land revenue.
- 3. Before dealing with the question, at what percentage of the net income the proper share of the Government towards land revenue should be fixed, we examine first, the items that should be deducted from the gross yield, to arrive at the net yield.
- 4. While considering their land revenue policy during the year 1902, the Government of India also dealt with the cultivation expenses and what 'net produce' should consist of. The cost of cultivation is not proportional to the produce from any unit area. It must be perfectly obvious that the cultivation expenses vary, not merely from soil to soil, but from man to man, from crop to crop, and from year to year; in one field a man will spend Rs. 10, Rs. 20 or more on manure-according to crop, etc.,—while his neighbour may spend little or nothing; one man cultivates his land contributing his own labour, drives a plough cut from his own field, with a team, he had bred on the land, and weeds and harvests with the labour of his own family, while his neighbour, perhaps a Brahmin, a merchant, or other non-cultivator, hires labour and buys material, at every step. But, since it is necessary to allow for the cost of raising a crop, the Settlement Officer prepared tables, based upon many years of enquiry and experience and applied them to the soils, in rough proportion to their productiveness, knowing fully well that the less productive lands do, as a matter of fact, generally get far less spent upon them than the more productive lands. It is not that expenses on poorer lands would not be as great or greater, if they were intensively cultivated, or that they would not cost more than

good lands, if they had to be raised to a given productiveness, or to yield a given produce, but, in fact, they are not so well cultivated, as they are not productive. The best lands get the maximum attention, the heaviest manuring, and labour. The ryot prefers to spend less upon the less productive and more precarious lands. Consequently, the gradation, though only a generalised approximation, has a real foundation.

- (5) That the poorer soils are comparatively neglected, is a matter of the most common knowledge and experience, and is recorded in many settlement reports, the District Manuals and the reports of the agricultural experts. Wet lands, when assessed at low rates, are usually at the tail end of the irrigated area, or are on a high level, or are of poor soil; these lands are usually tilled last and get such labour, manure and water, as are left and available. In the case of dry lands, it is notorious that immense areas of poor lands get no manure, but are fallowed every third year or oftener, and that the manure available is reserved for the better soils and especially for the 'gardens' (dry land, watered by wells). So also, it is the better lands, the black-cotton soils, the red-loams and so forth, which get the thorough weeding necessary for good outturns, while on millions of acres of dry soils, assessed from two annas to eight annas, in districts of scanty rainfall, with rocky or unwholesome sub-soil and only a few inches of stony surface soil, the land is barely scratched and sown with castor, groundnut horsegram, or millet; in most of such cases Rs. 1 to Rs. 2 per acre would be an outside figure of net income.
- 6. In this connection, it will be interesting to read paragraphs 38, 39, 40 and 42 of the resolution of the Board of Revenue, Madras, No. 542, dated 6th December 1900 which are extracted below.—
- "38. In considering the relation of the estimate of expenses to the outturn and to the consequent position of the cultivator, it must be remembered that these scales are maxima; not that they are not often exceeded whether according to the year, the crop, or the ryot, but that they are all calculated as though paid for in money, as though labour, cattle, manure, etc., were all purchased, a hypothesis wholly different from fact but differing wholly to the benefit of the ryot. The cost of bullocks is calculated at a certain rate as though they were always bought, whereas in very many instances they are bred by the ryot and brought up wholly on the straw of the farm crops or on wild pasture: moreover, the cal-

culation usually allows for a minimum of acreage tilled and of duration of the cattle, whereas on dry land, a pair will ordinarily last five years and more and till 14 acres or more per annum, besides doing other work and yielding manure: hence the average rate of cost given in the tables is a maximum. So also, in probably nine-tenths of the area, at least of dry lands, the labour expended is only that of the owner and his family, for the farms are of very small size; it is not mainly paid labour, though often mutually borrowed as when men plough, harvest, etc., in their neighbours' fields in return for similar assistance in their own. Manure again is largely the produce of the cattle of the farm, or picked up by the children or women in the waste lands, or is cut, as green manure, from the jungle. The feeding and housing of the bullocks which Mr. Dutt observes has not been allowed for, are omitted because straw does not enter into settlement calculations, though of great feeding or selling value; in the old reports, early in the century, it was often set against the whole cultivation expenses, and in the present day sub-tenants are willing to cultivate good lands on receipt of one quarter of the gross outturn of grain if they are allowed the whole of the straw also.

A vernacular proverb is to the effect that, if the cost of cultivation be counted up in money, not even the value of the goad will remain whereas, in fact, not only does the ryot live, but most of his land has a good sale value; remembrance of this proverb would save many a fallacy.

- 39. It must also be remembered that the rates thus formed are checked by the existing rates, and that, should they prove excessive, they are reduced, so that the ryot "may run no risk"; there is visible in Madras, says Baden-Powell (Land Systems of British India, Volume I, page 298), a distinct tendency in revision settlements not to alter rates, found to work well.
- 40. The Board must also point out that, if the actual cultivation expenses are really larger than are allowed for by the Settlement Department, the gross produce must, for many districts, be more valuable than is calculated by that department. For since most lands, both wet and dry, will always be leased at least on the half-share system, and in the case of much higher lands, often on a landlord's wet that. most, half, and at on the lands two-fifths or one-third or even one quarter, of the gross

value must pay both the cost of cultivation and the livelihood and the profits of the actual cultivator. Now, as regards wet lands, calculation will show that in some districts, as in the lower class soils of Bellary, Anantapur, in all but the highest classes of Trichinopoly (settlement just expired), etc., the cultivation expenses allowed are more than or nearly equal to half the gross produce at commutation rates: in most, if not in all the districts the amount left to the cultivator of the lower grade soils on the half-share or in the better lands on the one-third share, after paying the theoretical cultivation expenses, is so small that no cultivator would take up the lands on those conditions. Taking Salem as an example, since it is a well-known ryotwari district of which the initial (new) settlement is still current. . . for all wet lands. the commutation rate was 32 Madras measures—48 imperial seers per rupee. Land, both dry and wet, is habitually leased on the share principle; the share is here taken as one-half, but the cultivator frequently gets less, especially on the high class river-channel lands. For dry soils, cumbu in the northern portion of the same district may be taken; the commutation rate was 32 Madras measures or 48 seers per rupee.

41.

42. It is clear. . . that either—

- (1) the commutation rate is, at all events at present prices, too low, or
 - (2) that the grain outturn is estimated too low, or
- (3) that the cultivation expenses are estimated too high, or
- (4) that the straw is of such value as to make up for the loss or small profit in grain, or
- (5) that the cultivation expenses are really not money expenses at all in most items, but only labour which is supplied by the cultivator, or
- (6) that the actual cultivator is ground down to the barest subsistence by the ryot land-owner. Everyone of the first five hypothesis is in favour of the ryot and against the Government; the sixth is a well-known characteristic of peasant landlords. For the Presidency in general, however, it is clear that cultivation expenses in general are sufficiently well

allowed for by the Settlement Department, and that it is precisely "on the poorer class of lands" that the cultivation expenses are most liberal and not most 'ruinous'".

- 7. The actual cost of cultivation is a matter very difficult to determine and is one of the most conjectural of the various steps, connected with a settlement. The composition of soils afforded a tolerable clue as to the expenses of cultivation, the clayey soils being more difficult to work than the sandy soils and, therefore, requiring more costly cattle, while on the other hand, the sandy soils require more frequent manuring. The items usually included in the estimate of the cost of cultivation are:—
 - (i) ploughing cattle;
 - (ii) agricultural implements;
 - (iii) seed;
 - (iv) manure;
- (v) labour required for ploughing, sowing, weeding, reaping, threshing, etc.
- 8. The wages of labour, wherever paid in grain, are converted into money at the commutation prices adopted. The cost of bullocks and implements of husbandry is distributed over the number of years, for which they are expected to be serviceable and the other items are calculated for each year. The unit is taken as one plough and one pair of cattle for the area and then reduced to the terms of one acre. The straw is usually taken as a set off against the item 'feed of bullocks' and no separate provision is, therefore, made for it, nor does it find place in the assets of the ryots.
- 9. In Telangana, no attempt was made to fix the assessment, as a definite fraction of the net produce, after determining the money value of the produce of a field. The system prevailing in Telangana is 'empirical'. Although, the word 'empirical' suggests that the system is based on certain assumptions, it has to be pointed out that there is a systematic examination of the economic background of the tract, material condition of the people and other facilities enjoyed by the ryots. In doing so, the Settlement Officer investigates the gross yields on different types of lands, the cost of cultivation and make deductions for vicissitudes of season and other allowances paid to the village artisans. He

then calculates the net profits left to the ryots. He also takes into consideration the assessment that is already being paid in the area and in the surrounding tracts and then comes to a conclusion about the reasonable maximum assessment that may be fixed with reference to the capacity of an average ryot. The assessment never exceeded one half of the net income from the land. The method followed in Telangana also falls under the net produce theory. The following items of cultivation expenses are taken into account by the Settlement Officer in fixing the assessment:—

- (1) Manure,
- (2) Seeds,
- (3) Weeding,
- (4) Harvesting,
- (5) Balutedars, i.e., remuneration to village craftman's services,
- (6) Maintenance of bullocks,
- (7) Depreciation charges of bullocks, and
- (8) Pay of farm servants.
- 10. The present position is that interest on capital outlay (value of land), however, is not deducted from the gross produce when arriving at the net yield. The purchaser of the land would have taken into consideration the current assessment so fixed.
- 11. As regards the point whether any deduction should be made from the gross produce to arrive at the net produce in respect of cost of agricultural implements, cost of cattle and the maintenance of cattle, we consider that depreciation of cattle and agricultural implements and the cost of maintenance of the cattle should be taken into account and should be deducted from the gross yield to arrive at the net yield.
- 12. The next point for consideration is as to what percentage of net produce should be fixed as land revenue. The half-net principle has been in vogue from many years and has been considered as 'more fair' to the holders of the poorer lands and it has been adopted in every district of the Andhra.

In the half-net system, the cultivation expenses are more liberal, in proportion to the produce, to the poorer lands than to the richer lands and the assessments based on half the net produce never reached the limit of 50 per cent of the net yield in actual practice, even in the past. The lowest class of soils enjoy progressively lighter and lighter rates of assessment under the half-net system. In other words, cultivation expenses are more favourable to the poorer than to the richer lands under the half-net system.

13. In practice, half the net produce has never been collected as assessment. With the rise in prices of foodgrains, the incidence of assessment has gone down. As we are not recommending settlements or resettlements and so, in future, revisions will be based on prices and other relevant factors, we consider that it is not necessary to give an opinion as to what percentage of net produce the share of the Government should be.

Paragraph 3.—Whether there need be any difference in the percentage of the net income in fixing the Government's share from the wet and dry lands.

The early ryotwari settlements, introduced by the British, had many defects. The survey and settlements were conducted rapidly and there were many inequalities. The assessments were very high and even not based generally on the estimates of the produce. The incidence of assessment was everywhere unequal, while a succession of years of low prices had the practical effect of raising the rates of assessment which were already admittedly too high. The Government took at that time, towards its share, i.e., land revenue, 50 per cent of the gross produce of irrigated land and 35 per cent of that of unirrigated lands. This was the position in 1855, i.e., a quarter century after the final adoption of ryotwari settlement as the standard revenue system of Madras of which the Andhra region was a part. In 1855, the Government determined to carry out the general revision of the assessment upon what seemed to be the only correct basis of a land revenue settlement, namely an accurate survey and a more or less exact classification of soil. But the actual settlement work was not taken up until the year 1864 when the Government's share was fixed as one-half of the net produce without making any distinction between irrigated and unirrigated lands. The actual rates of assessments thus fixed are in no case higher, nor are they equal to, or in excess of, half the net produce. In fact, the assessment never reached the upper limit of 50 per cent either at the original settlement or at the resettlements. The half-net system has thus been, in vogue, for the past about 94 years in Andhra. This is not a new idea to Telangana region as at the time of initial settlement, when the prices of commodities were very low, nearly half of the net income was declared as the assessment due to Government as land revenue. This maximum of half the net produce generally remained as an outer limit.

- 2. The point for consideration is whether different percentages should be fixed now for wet and dry lands as the proper share of Government towards land revenue.
- 3. We are recommending later, levy of water charge in addition to assessment on dry lands for irrigated lands and the removal of the category of 'consolidated wet'. The dry component or dry assessment corresponding to consolidated wet rates will be arrived at for each survey field and an appropriate water rate depending on the soil and nature of supply of source will also be levied. The water rate will have some relation to the quantum of service rendered.
- 4. Under these circumstances, we consider that it is not necessary to fix different percentages for dry and wet lands. Besides, we are not recommending resettlements. Hereafter, revision of assessments will be on the basis of prices, if any. Therefore, we consider that, it is not necessary to give our views on this issue.
- Paragraph 4.—The need for modifying the existing procedure of basing the commutation rates on the prices in the previous 20 non-famine years and the desirability or otherwise of linking up, the land revenue assessment with prices level.
- 1. The commutation of Government's share of the produce from land into money with reference to the prices prevailing 'in the previous' 19 years was introduced, for the first time, during the reign of Akbar. The idea perhaps attracted the attention of the British Government only in 1865. In all the earlier settlements, the average of the prices in 20 years, from 1845 to 1864 was adopted. But since 1865, the abnormal prices prevailing in the years of famine or distress were

excluded, and the average calculated with reference to the recorded prices of twenty non-famine years (or such number of years as the Government may from time to time determine) immediately preceding the commencement of settlement operations in any district or tract.

- 2. The grounds urged for fixing the commutation rates on the basis of prices in 20 non-famine years have become out-ofdate and the force of their application has also diminished with the rapid changes in the recent years. The settlements were made for a period of 30 years on the basis of the average of prices prevailing in the previous 20 non-famine years. was, of course, considered sufficient, if the demand of the Government was readjusted once in the lifetime of each generation, as prices of the agricultural produce were not liable to violent changes. The conditions now prevailing are quite different from those existing during resettlements. There is rapid rise in prices due to the Five-Year Plans, due to the construction of roads, railways and projects and also the after effects of a World War. The prices, which increased, remained more or less steady, in the last decade. The postponement of the revision of the Government demand from lands is unfair both to the general tax payer, who has to bear the strain of additional taxation measures necessitated on account of the rise in prices, and to the Government who are deprived of the additional revenue to which they have a legitimate claim.
- 3. In theory, the Government revenue represents the sum that may fairly be demanded in an average of seasons and it was assessed in the belief that cultivators would save, to meet the deficit in bad years. The rates of assessment are fixed on the consideration of the yields of land in good, bad and indifferent years. The average ryot is not generally profited by the wholesome principle of fixation of assessment for a long period, in as much as he does not lay by a portion of his surplus in good years, to meet his requirements in bad or indifferent years. The demands of land revenue remained almost the same and the suspensions and remissions granted did not give adequate relief.

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4. The popular Government which came into office in 1937 abolished resettlements as a State Policy. That the revenue assessments were heavy, was of course the direct consequence of long-term settlement. It furnished an argument to shorten

the period during which the rates of assessment fixed should be in force without a revision. This period may be reduced from thirty years to ten or five years. The incidence of land assessment has, however, decreased greatly owing to rising prices of agricultural commodities in recent years. As the prices have risen abruptly and remained steady, the value of the lands has also correspondingly increased in recent years. This may be taken as one of the tests for levying enhanced assessment. On account of the rise in the value of the produce and the realization of better yields, with the use of improved seeds and fertilizers, there is an increase in the standard of living of the cultivator. As a result of the expenditure incurred by the State, on irrigation and developmental activities, the strain on the resources of the Government is also heavy.

- 5. Consequent on the abandonment of resettlements, there is need for the Government to review the assessments on the basis of the variations in prices and other relevant factors at short intervals of five years.
- 6. With the rise in prices, the production requirements of agriculture have also increased in number and value. Even the cash income of the ryot has not risen in proportion to the rise in prices and the rise in real incomes has been slower still. These are a few of the many relevant factors which we suggest should be taken note of at each quinquennial review.
- 7. We also emphatically urge that cost of production studies must be organized by the State in typical areas, for representative soil and climatic tracts. This data alone will give a clear indication of the trends of incomes, in farming, which alone can sustain all taxes on land.
- 8. No one can forecast now, how the trend of prices and profits would be during the next 20 or 30 years. Unforeseen factors may cause them to rise still higher or fall steeper. However, during the long span of 20 years or so, there may be cycles of very high prices and of very low prices. It would certainly be very unsafe, in future, to base assessment on commutation rates worked out on the average prices of 20 years. It would be unfair to the tax payer, if prices fall below the revised rates and would similarly result in a loss of revenue to the Government, if prices rise. The probability of wide fluctuations in prices is a factor which Government must

take into consideration and which is quite apparent in the difference in prices of staple crops in the pre-war and postwar years. Therefore, we are of opinion that refixation or revision of commutation rates is essential for the purpose of revising the assessments periodically and that the old theory of fixing assessments for 20 non-famine years is now out-of-date and should be modified.

- 9. In order to arrive at the commutation rate, hitherto, a deduction of 15 per cent was made from the average of the prices, to cover cartage and merchants' profits, as the prices taken into consideration were generally those prevailing at the taluk headquarters and not those at the farm site. Even though the farmer is now more market-minded and the communications have improved, yet on an overall consideration, we feel that the deduction of 15 per cent from the average of prices over the period of revision is necessary while working out the commutation rates, even in future.
- 10. At the original settlements, a deduction ranging from 6 to 25 per cent was made from the average of yields per acre to allow for the vicissitudes of season and for unprofitable areas in the holdings. The settlement rates were fixed applying the commutation rate to the yield, so reduced. The settlement rates, so fixed, were revised during resettlements on the basis of change in the level of average of prices over 20 non-famine years. This resettlement rate was later standardized on the basis of price levels under the Andhra Pradesh Standardization Act, 1956 and the Hyderabad Special Assessments Act, 1952. As the allowance for vicissitudes of season has already been deducted while calculating the original assessments and the subsequent revisions are based on the original assessments, the question of making allowance for vicissitudes of season and for unprofitable areas will not arise in future reviews or revisions.
- 11. The place of land revenue in the economy of the ryot, has changed now, on account of its changing character in recent years. Progressive monetization, the rapid development of internal transport, the increasing commercialization of agriculture and the general change in the All-India Market, served to lighten the burden of land revenue. There is also decline in the importance of land revenue in relation to the total tax revenues of State Governments, due to the growth and increased importance of new forms of taxations, as shown below:—

Year end March		Total tax revenue cluding shared tax (Rs. lakhs)	Land Revenue es (Rs. lakhs)	Column 3 as percentage of Column 2
(1)		(2)	(3)	(4)
1922	••	6280	3439	54.8
1927	••	6855	3444	50.2
1932	• •	6031	3261	54.1
1937	••	5985	3167	52.9
1942	••	6099	2770	45.4
1947		13328	3096	23.2
1952	• •	16265	3305	20.3
1954	••	18659	4964	26.6

Notes:—(1) The figures up to 1937 include Burma.

(2) The figures from 1948 relate to Part A States in the Indian Union.

- 12. In the absence of violent downward or upward movement of prices, the existing levels of assessments could, in broad terms, be said to operate in a manner not unfair to the cultivator. Many of the difficulties which have arisen and much of the inelasticity of land revenue receipts may be traced to a period of guarantee, which in the context of changed price conditions, has proved to be unduly long. Nor, for equally obvious reasons, can the period be too short. If the assessment is to be revised annually or biennially, much hardship and great uncertainty will replace the relative fixity and stability, which now characterize the land revenue system. The cost and labour involved, will not be commensurate with the results.
- 13. As the standardized assessment is based on certain commutation rates, fixed on the level of prices for the foodgrains, it is proper that it should be liable to revision on the basis of the level of prices over a moderate period of five years, which will be neither too short nor too long. In 1951, when the Madras Land Revenue Reforms Committee recommended the sliding scale of assessment, the developments under the First Five-Year Plan were not envisaged. In 1954 when the Taxation Enquiry Commission examined the question, the

First Five-Year Plan was under implementation. The Commission, therefore, suggested a standardization of assessments and their revision, once in ten years. After taking into account the rapid developments that have taken place and the trend in prices in the fifties, we are of the view that the standardized assessments should be reviewed and if need be, revised once in five years. This period may coincide with the periods of the future Five-Year Plans.

Paragraph 5.—Should prices of commercial crops be taken into consideration in fixing land revenue assessment?

- 1. The land revenue assessment is based on the commutation rates of the staple foodgrains of the tract. Paddy has been the standard foodgrain grown in wet lands and cholam, cumbu, korra and ragi have been the main standard grains, in dry lands, both in Andhra and Telangana regions. The main basis for the selection of the grain is that it should be the most extensively grown and locally consumed food crop. The reason underlying this basis is that food products are the ultimate standards of value and that it is not also easy to ascertain and check the out-turn of some of the non-food crops, without relying on the estimates of the growers. The question, that attracted the attention of the Committee in this connection, is whether the prices of commercial crops should be taken into consideration, in arriving at the commutation rate, based on the average of prices in a period of years.
- 2. In the settlements and resettlements no notice was taken of commercial or other valuable crops grown on the lands, on the principle that the assessment was on the land and not on the basis of the crops actually raised. The peasant from time immemorial has been growing food crops for his own needs. Attractive prices and good demand have acted as inducement to the ryot, for growing commercial crops. large area of the land on which some of the commercial crops are grown is assessed at a very low rate, especially in the case of dry lands. Castor in Telangana is grown on land which is unfit for any other crop. Groundnut is also grown on land assessed very low, at annas 2 to annas 5. Owing to the development of international trade, the commercial crops have acquired a definite place in agriculture, from the economic point of view and there has been also a considerable increase in the acreage under commercial crops. This is also due to the growing commercialization of agriculture and the general evolution of an All-India Market with the steady support pro-

vided to local prices. The prices of commercial crops fluctuate, violently. The ryots grow these crops only if they anticipate good profits. The commercial crops are normally cultivated in rotation with ordinary food crops. No land is utilized regularly for growing these crops. Lands have also to be left fallow some times for recouping the fertility by nitrogen absorption. We, therefore, consider that it is not feasible to take the prices of these crops into account, for fixing the commutation rate for the revision of assessment. Besides, the real importance of the commutation rate will arise only if there are original settlements and to some extent in resettlements and not when there is revision on the basis of prices and other allied considerations.

Paragraph 6.—The effects of levy of purchase tax and sales tax on agricultural commodities on the ryots.

Under the provisions of the Andhra Pradesh General Sales Tax Act, 1957 and schedules thereunder, Sales Tax or purchase tax is levied on agricultural commodities as follows:—

			AREA JANGESTON AND ARREST ARREST AND ARREST AND ARREST ARREST AND		
Nan	ne of the commo	odity	Point of levy		Rate of tax per rupee.
1.	Paddy	At the po	oint of 1st purchase in	the State	3 np.
2.	Rice	••	do	• •	3 np.
3.	Millets	• •	azaua do	• •	2 np.
4.	Turmeric	• •	do	• •	6 np.
5.	Copra	• •	do		3 np.
6.	Groundnut		do		2 np.
7.	Groundnut oil	At the po	oint of 1st sale in the	State	2 np.
8.	Chillies	At each s	stage of sale in the Sta	ate	2 np.
9.	Jaggery	At the po	oint of 1st sale in the	State	3 np.
10.	Jute	At the po	oint of 1st purchase in	n the State	2 np.
11.	Cotton seeds	At the po	oint of 1st sale in the	State	2 np.
12.	Cotton	of pur other c	archased by a Spinnin rchase by the Spinnir cases at the point of p who buys it in the St	ng Mill and ourchase by the	in all
13.	Oilseeds including groundnu gingelly etc	it,	oint of 1st purchase i	n the State	2 np.
14	Coconuts	At the p	oint of 1st purchase i	n the State	3 np.

3. The particulars of the revenue realised for 1957-58 on some of the commodities are furnished hereunder;

1. Paddy or Rice .. Rs. 150.00 lakhs (Estimated)
2. Oilseeds .. Rs. 17.00 lakhs (Approximate)
3. Chillies .. Rs. 2.25

3. Chilles ... Rs. 2.25 ,, ,, 4. Cotton ... Rs. 4.25 ,, ,,

(Furnished by the Board of Revenue, Commercial Taxes).

- 2. According to the letter and spirit of the Act, the dealer is liable to pay the Purchase Tax to the Government. But a good number of answers received by the Committee from the public, to the questionnaire issued by it, reveal that the purchase tax is not actually paid by the dealer, but is passed on to the ryots. The dealer who ought to pay the tax is collecting it from the ryot by deducting the tax amount while paying to the ryot the price for the produce, purchased by him. Similarly, on the other articles and commodities sold to the public, the dealer has to pay the sales tax to the Government on his total turnover. But, in practice, the dealers add sales tax and issue receipts to the purchasers, collecting it from the purchasers.
- 3. The Committee feels the payment of sales and purchase taxes on foodgrains is nearer to the producer than a tax like Octroi which is nearer to the consumer. We consider that the levy of sales tax or purchase tax affects the ryots, though indirectly, and reduces to that extent, the value of the produce sold by him.

Paragraph 7.—Assessment on non-agricultural lands.

The levy of assessment on lands, put to non-agricultural use in Telangana, is regulated by rule 71 of the Hyderabad Land Revenue Rules. In the Andhra area, no special assessment is levied on lands, put to non-agricultural use. Ordinary ryotwari assessment is collected and it is subject to revision, during the resettlement of the tract.

2. In Andhra, when vacant lands at the disposal of Government in towns are assigned to private persons, the assignments are made subject to the condition, that the grantees should pay ground rent to the Government. Prior to 1927, this ground-rent was fixed on the basis of the full letting value of the land. Rules for the levy of ground-rent, in mufassal towns were laid down in Board's Standing Orders 21-12 (1920 edition). But subsequently, it was held that the levy of ground-rent on the rental value was not justifiable and it was converted into agricultural assessment,

i.e., the assessment which should have been charged, had the land continued to be agricultural land. The Government have also recognized the principle that municipalities should get a large share of the increment in land values, which is due to the development of urban life in the towns and that the Government should collect only the assumed agricultural assessment on the land. Accordingly in 1927, an assumed agricultural assessment of Rs. 6-4-0 per acre was fixed as groundrent on town-sites. After 1927, there remained two sets of ground-rents—(1) levied on the basis of full competitive rent under the rules in force prior to 1927, and (2) ground-rents equal to the assumed agricultural assessment, i.e., Rs. 6-4-0 levied after 1927. After 1927, the ground-rent levied which is equal to assumed agricultural assessment was credited to the Government, while out of the amount levied prior to 1927, the amount in excess of the assumed agricultural assessment is being transferred to the Municipalities. The ground-rent levied after 1927 is also liable to revision during settlements as in the case of assessments levied no ryotwari lands. During the resettlements of East Godavari, West Godavari, Krishna and Guntur districts, the rate of ground-rent was increased to Rs. 12-8-0 per acre. The rates of ground-rent prevailing in each district are given below:

	Name of the district		Rates per acre in force								
			Rs.	A.	P.	Rs.	A.	Ρ.	Rs.	A.	P.
1.	East Godavari	• •	12	8	0						
2.	West Godavari	••	12	8	0						
3.	Krishna		6	4	0	12	8	0	15	10	0
			18	12	0	25	0	0	31	4	0
	,		43	12	0	50	0	0	81	4	0
			87	8	0	93	12	0	106	4	0
			131	4	0	850	0	0	16	10	8
			14	8	0	62	8	0	17	0	0
			14	0	0	5	0	0	40	0	0
			68	12	0	37	8	0	32	4	0
			16	0	0	16	4	0	12	0	0

	Name of the district		Rat	es pe	r ac	re in force					
			Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
			15	0	0	19	0	0	20	0	0
			18	0	0	30	0	0	75	0	0
			21	14	0	33	5	4	48	0	9
			22	8	0	. 13	. 8	0	10	0	0
			11	0	0	10	8	0	200	0	0
			212	8	0	196	14	0	190	10	0
			362	8	0	125	0	0	193		0
			175	0	0	46	4	0	81	4	0
			69	0	0	151	4	0	268	12	0
			112	8	0	475	0	0	712	8	0
			150	0	0-	250	0	0	562-	8	0
			381	4	0	143	12	0	568		0
			600	0	0	3,537	8	0	506		0
			383	5	0	372	14	0	781	4	0
			56		0	42	11	4			•
4.	Guntur		6	4	0	12	8	0	13	4	0
			37	8	0	75	0	0	100	0	0
			2.75	0	0	287	8	0	567	2	0
			775	0	0	400	0	0	175	0	0
			1,500	0	0	230	0	0	225	0	0
	•		375	0	0	325	0	0	125	0	0
			128	0	0	575	0	0	321	0	0
			837	11	0	50	0	0	850	0	0
			29	0	0	23	0	0	18	12	0
			350	0	0	373	9	0	i	8	0
5.	Nellore		['] 6		0						
6.	Anantapur	• •	6		0	12	8	0			
7.	Cuddapah	• •	6	4	0						
8.	Kurnool	• •	, 6	4	0						
9.	Chittoor	• •	6		0						
10.	Visakhapatnam	• •	6		0						
11.	Srikakulam	• •	6	4	0						

- 3. The increase ordered, in resettlement, in Guntur district was kept in abeyance. In some towns, in Anantapur district, the existing rates of ground-rent is Rs. 12-8-0 whereas, in other towns it is only Rs. 6-4-0. Thus there are two rates in force, *i.e.*, Rs. 6-4-0 in some cases and Rs. 12-8-0 in other cases. The high rates of ground-rent prevailing in Krishna and Guntur districts were fixed under the rules in force prior to 1927. There is a rate of Rs. 3,537-8-0 per acre, in force, in Krishna district.
- 4. Ground-rent is not charged on house-sites in the village sites of villages and on the sites on which houses are situated in the old town.
- 5. In Telangana, in the event of diversion of dry agricultural lands to non-agricultural purposes the following special assessments are levied:—
- (1) Rs. 5 per acre in the case of lands situated in the villages other than Tahsil or district headquarters,
- (2) Rs. 8 per acre in the case of lands situated in the tahsil headquarters, and
- (3) Rs. 12 per acre in the case of lands situated in the district headquarter. Provided where such land is situated within the municipal limits of a village having a population of 15,000 or more, the Collector may levy an assessment of Rs. 15 per acre. In the event of wet land being diverted to non-agricultural purposes, the rate of special assessment shall be one and one-fourth times the wet assessment, if the land is situated in a village other than the tahsil or district headquarters and one and half times, if the land is situated in the tahsil or district headquarters.
- 6. The municipality levies property tax based on the rental value per annum. Taxes are also separately levied by the municipality for water supply, scavenging and other amenities provided by it. All these taxes are collected by the municipality while the ground-rent or assessment is collected by the Revenue Department. Thus there are two collecting agencies, one the Revenue Department collecting ground-rent or special assessment and the other the municipality collecting the municipal taxes. We consider that there should be only one collecting agency to collect the assessment on land from the owner along with the municipal taxes, and that, the municipality should be the single collecting agency.

7. We understand that correspondence is going on between the Government and the Board of Revenue to revise or rationalize the existing rates of ground-rent in Andhra region or the special assessment levied on agricultural lands put to non-agricultural use, in Telangana. We, therefore, refrain from making any recommendation except that we feel that for good farming, it would be necessary that the farmer should have his house in the land itself—the advantages being better supervision and higher production and that in such cases special assessment should not be levied.

Paragraph 8.—The necessity of continuing or altering the land revenue settlements in Agency areas.

There are backward areas in Andhra Pradesh known as the agency as distinguished from the other areas known as plains, mainly inhabited by the Adivasis (Tribals). They are being given special treatment by the application of different laws from those in plains, in the matter of Land Revenue Administration and the Administration of Justice. These agencies are administered by the Collectors as agents to the Government under a separate enactment, viz., the Madras Act XXIV (the Ganjam and Visakhapatnam Act), 1839. The particulars of the Agency areas in Andhra region are given below:—

District	Taluk नरामेव व	Total number of villages	Area in sq. miles	Population
Srikakulam	Parvathipuram	249	294	32,071
	Palakonda	108	146	17,714
	Salur .	107	69	4,349
Visakhapatnam	Srungavarapu Kota	679	282	38.649
	Golugonda	27	188	24,5 95
	Veeravalli	6	361	7,340
	Gudem	1,828	1,869	1,09,521
East Godavari	Nugur	146	593	35,366
	Bhadrachalam	327	911	77,620
	Rampachodavaram	232	289	40,272
	Yellavaram	323	850	54,525
West Godavari	Polavaram	103	133	46,340

2. Bhadrachalam taluk originally formed part of the Palwancha Estate in Nizam's territory, granted as a military jaghir in 1824 A.D. by the Emperor of Delhi. This taluk was ceded by the Nizam to the British in 1860 and was included in the Central Provinces. In 1874, this taluk was transferred to the composite Madras State. The Nugur taluk which was in Sironcha Tahsil of Chanda district in the Central Provinces, was transferred to the Madras Presidency in the year 1909. This taluk contains 61 Government villages, 89 Malguzari villages, 39 patch villages and 11 forest villages. The tenures of lands in the Malguzari villages of this taluk are reported to be similar to those in the Bhadrachalam taluk. According to the orders issued in G.O. Ms. No. 1692, dated 27th August 1934 of the Madras Government, the assessment on the lands is based on their classification as 'Cholam land', 'Paddy land' and 'Wet land', in the Godavari Agency. In respect of Visakhapatnam Agency, the assessment on the lands is based on the number of ploughs used by each person. Each plough is supposed to enable a family to cultivate from 10 to 15 acres of dry land or about five acres of wet land. Settlement, on ryotwari principles, was undertaken in portions of Government Agency areas, where there was settled cultivation. The particulars of agency areas where the ryotwari system has been introduced are given below:—

West Godavari District:

Polavaram Taluk .

... 20 villages were settled as per G.O. No. 1486 (21-s) Revenue, dated 11-7-1931 and 42 villages were settled as per G.O. No. 2121, dated 8-10-1931.

East Godavari District:

Ellavaram taluk

.. 113 rented villages were settled as per G.O. No. 2545 Revenue, dated 8-12-1934.

Nugur taluk

. 71 villages were surveyed and settled in a simple manner in G.O. No. 1692, Revenue, dated 27-8-1934.

Visakhapatnam District:

Gudem taluk

. 76 villages of Koyyur, Antada, Makaram and Chittapadu resumed Muttas were settled as per G.O. 2051 Revenue, dated 30-8-1935 and G.O. No. 1324, dated 19-6-1936.

Srikakulam District:

Palakonda taluk

.. 103 Agency villages were settled as per G.O. No. 2726 Revenue, dated 9-11-1940.

- 3. From the above, it may be seen that only small portions of Government agencies have been settled on ryotwari principles, on the ground that only such of the villages which have reached the stage of settled cultivation could be surveyed and settled on ryotwari principles. These villages are generally in the areas adjoining the plains and are easily accessible by roads to marketing centres. In the remaining agency areas, the Muttadari system according to which the area is subdivided into several 'Muttas', each under a 'Muttadar', as its chief, is still continued. The Muttadar is responsible for the collection and payment of land revenue due to the Government after deducting a portion of it for the service of collection. The reasons for putting off survey and settlement in a major portion of the Agency, are mainly the following:—
- (a) the absolute lack of communications in most of the tracts;
 - (b) the very difficult nature of the country;
- (c) the notoriously unhealthy conditions prevalent in the areas, which are in an underdeveloped and backward state, rendering the work relating to the survey and settlement, extremely difficult; and
- (d) the enormous cost and time involved for completing the survey and settlement operations, owing to the difficulties described above, with very little corresponding advantage.
- 4. All these difficulties still exist in the way of taking up the entire Agency areas, in the Government and the abolished estates, for survey and settlement.
- 5. In some of the Agency estate villages, another system known as 'Musthajari' is in vogue. The main differences between Muttadari and Musthajari systems are given below:—
- (1) While the Muttadar is the farmer of rent for the several villages included in his Mutta, the Musthajar has only one village under him and he is responsible for the collections in this one village only.
- (2) While the Muttadar continues to be the head of the Mutta till he is removed and is responsible for revenue collections and the maintenance of law and order, during the period of his office, the Musthajar is only an annual farmer of rent

and can be replaced by another after the expiry of the year for which cowles and kadapas are executed by him.

6. In all other respects the conditions in the Musthajari and Muttadari systems are almost similar. In the Government Agency areas, there are, therefore, settled as well as unsettled tracts, side by side. The actual extent brought under ryotwari system is quite insignificant. Settlement in unsettled areas can only be taken up under ryotwari system when cultivation becomes settled and pronounced and when these areas are linked up, with good communications, to the markets.

Telangana region.

7. Analogous to the Agency administration, prevailing in Andhra, there is Tribal area administration, in Telangana region. This administration is carried out under the Tribal Areas Regulation, 1359 Fasli. This regulation prescribes the administration of civil and criminal justice, land revenue and other important administrative matters in tribal areas through the Agents and Assistant Agents. For this purpose, special rules have been framed by the Government. The particulars of the tribal areas notified in Telangana region are given below:—

	Name of the D	istrict	Name	e of the taluk	No. of villages		
1.	Adilabad		स्टापन 1.	Adilabad	• •	72	
			2.	Boath		46	
			3.	Utnur	••	166	
			4.	Asifabad		86	
	,		5.	Lakshettipet		18	
			6.	Sirpur		24	
2.	Warangal	• •	1.	Mulug		84	
			2.	Narasampet		72	
			3.	Yellandu		99	
3.	Khammam	• •	•••	Paloncha	• •	151	
4.	Mahbubnagar	• •	••	Achampet		67	

- 8. The total areas inhabited by the tribesmen is 4,839 sq. miles, which has been settled, and their population is 2,61,330. The Hill Tribes generally live on agriculture. The traditional form of cultivation is 'Podu' or 'shifting' cultivation. But some Hill-Tribes like Ghonds cultivate with ploughs on land reclaimed. The Hill-Tribes are receiving now from the Government a more favourable and lenient treatment than their brethren, in the plains, and are administered by a different set of rules. They are assigned pattas under the 'Lavnikhas' (assignment) rules. Agricultural implements, seeds and bullocks are supplied to them by the Tribal Welfare Department, free of cost. They are also granted loans, both for improving agriculture and land.
- 9. The point for consideration is whether the existing land revenue assessments, obtaining in the agency areas should be continued or need any alterations. We refrain from recommending any changes in the existing system in the agency areas, which had not yet been settled, till the Hill-Tribes reach a stage when they could compete, successfully, with the plains-folk. We, therefore, recommend 'status quo' to continue, in the unsettled area in the agency. The Committee recommends that any survey or other steps necessary for soil conservation, and allied purposes of the area relating to big projects like Machkund may, however, be taken.

Paragraph 9.—Crop Insurance and Remissions.

During the tour of the Committee in Kurnool district and elsewhere, one of the representations made to the Committee was about the pressing need for crop insurance. The Congress Agrarian Reforms Committee, in paragraph 109 of its report, dealt with the matter and recommended that the scheme of crop insurance should be undertaken experimentally by the State. We understand that the Chief Minister of Andhra Pradesh, has recently requested Dr. B. Natarajan and Sri P. S. Lokanathan, two leading Economists to work out a scheme for crop and cattle insurance. There cannot be any room for difference of opinion about the need for such insur-Security, which is so sorely needed by the agriculturists, is assured only when there is crop insurance. This kind of insurance was never actually introduced in India, apparently on account of its inherent complications and the difficulties in its working. The first handicap for working out a crop insurance scheme is the fact that practically none of the agriculturists maintain any reliable data for a correct appre-

ciation of the position. One has to depend mostly on the oral data given by the agriculturists as regards cultivation expenses and profits from the crop. The second handicap is the vastness of the agricultural operations, their diversity, size and several other dissimilarities, requiring constant individual attention, which is rather difficult, as the maturity of the claim in respect of crop insurance occurs in several seasons and on several kinds of crops. The history of crop insurance as set out in Encyclopedia Britannica (pages 374 to 376, Volume I) reveals that even in countries like United States of America and Russia, it could not be successfully implemented even in initial stages, in many cases, because premiums adequate to cover the indemnities paid could not be collected. The Congress Agrarian Reforms Committee stated that crop insurance in some shape or form has been taken up in many foreign countries and that in every case, the Government have subsidized heavily such schemes of crop insurance. At the instance of the Food and Agriculture Organization, Dr. P. K. Ray submitted a scheme of crop insurance for Ceylon. A summary of this report on crop (paddy) insurance was published in the Reserve Bank of India Bulletin (March 1958 issue). Dr. Ray has said that the stage to introduce crop insurance has not yet come. The Co-operative Planning Committee of India observed that crop insurance in India in the present circumstances appears, in their opinion, beyond the scope of private agencies or co-operative organizations, firstly due to the lack of reliable statistical data and secondly due to the inability of the peasantry to bear the incidence of its cost. At the same time, they were of opinion that some scheme would have to be devised, in course of time, to protect agricultural classes. is difficult to find any Insurance Company coming forward to undertake such insurance. The Government alone have to take up the question. In view of the difficulties expressed by several authorities, pending examination of the question by the Economists and what it costs to ryots, we are unable to make any recommendation in this behalf.

2. As crop insurance is not likely to materialize in the immediate future, the grant of remissions has to be continued till such time as the Government are ready to introduce a comprehensive scheme for crop insurance. In Telangana, the rules issued for the grant of remissions are statutory while in Andhra they are based on executive instructions. However, the compiling of a Revenue Code for the entire State is engaging the attention of the Government separately.

- 3. The points for consideration are whether the present rules of remission provide for adequate relief and whether the procedure adopted in granting the remissions now is suitable to ensure effective relief to the ryots.
- 4. After a careful examination of the rules of remissions contained in the Board's Standing Orders 13 and 14, in force, in the Andhra region and Part II of the Hyderabad Land Revenue Rules, 1951, in force, in the Telangana region, we make the following recommendations regarding the granting of remissions:—
- (1) Every ryot who wishes to claim remission must apply on unstamped paper to the Deputy Tahsildar or the Tahsildar who has jurisdiction, in time to allow for the inspection of the crop. These applications must be presented before a specified date to be notified by the District Collector appropriate to the local agricultural practices and seasonal conditions in respect of each crop—(kharif and first irrigated crops and rabi, and second or third irrigated crops). The District Collector should also fix a date by which the officers should complete their inspections. As soon as an application is received, the Deputy Tahsildar or the Tahsildar should arrange for an inspection of the crop and the date fixed for such inspection should be intimated to the persons concerned. The ryot should keep the crop without harvesting till the last date fixed for completing the inspections. The inspection of the crop should be made after the setting of the grain and before the shedding of the grain, which will be different for different crops, in different areas. If the inspection is not made before the last date fixed for inspection, the ryot should be free to cut the crop and the presumption will be that the officers have accepted that the crop has been totally lost or lost to the extent, represented by him in his application.
- (2) In respect of lands which are classified as A, B and C class irrigable dry lands, by this Committee, remission should be of both the dry assessment and water rate.
- (3) Outturns should be recorded in terms of imperial maunds or other local weights.
- (4) The present system of conducting crop cutting experiments after the constitution of panchs, to estimate the yields for granting remissions, now in vogue, in Telangana, should be abolished, as this procedure is cumbersome. The

order regarding the grant or rejection of remissions should be passed, only after personal inspection, either by the Tahsildar, or the Deputy Tahsildar, and not on the basis of the Revenue Inspector's remarks.

- (5) The reasons for the low yields should be recorded by the Inspecting Officers.
- (6) For the purpose of granting remissions, one acre or a full survey number or subdivision whichever is less should be taken as a unit.
- (7) Remission should also be granted in the case of damage to wet crops due to insect pests and plant diseases.
- (8) In the case of paddy crop, the ryot not only puts in much labour but also invests considerable amounts on seeds, manure and other items. Even if there be some slight yield it would not be sufficient to meet even those items of expenditure. We, therefore, recommend that if the yield of paddy on irrigated land is below three bags or 6 imperial maunds per acre, it should be treated as a case of total loss of crop.
- (9) If the yield is five bags of paddy or less but not less than 3 bags per acre, half remission should be granted. If, however, the remaining half of the assessment and water rate is less than Rs. 8 per acre the amount remitted should be only the assessment which is in excess of Rs. 8 per acre.
- (10) In the case of other irrigated crops, the cost of cultivation is higher than that incurred for dry crops. There is enormous difference in the yields between these two classes of crops. Remission for irrigated dry crops should therefore be granted considering the yield of each crop. We fix the following yields for purposes of granting remission for these crops:—
 - (i) Cholam or jowar ... 2 bags or 4 imperial maunds per acre.
 - (ii) Cotton ... 250 lbs. per acre.
 - (iii) Groundnut ... 3 bags or 3 imperial maunds per acre.

In the case of other irrigated crops for which we have not fixed any yield but are entitled for the grant of remission we recommend that an outturn of one fourth of the normal yield and below per acre should be taken as a case of total loss of crop and remission granted.

- (11) In the case of light irrigated crops, the same broad principles suggested for other irrigated crops in item 10 above, should be followed.
- (12) Class VI sources as per the table recommended by this Committee should be treated as precarious sources. Under precarious irrigation sources, only the extent cultivated should be charged for water. The distinction made in Board's Standing Order No. 13 (12) in allowing this facility, only to the precarious sources in certain districts should be removed and it should be made to apply to such sources in all other districts also.
- (13) In the case of unirrigated dry crops, when the area affected by bad seasonal conditions, such as drought, heavy rains, floods, etc. is a contiguous tract of not less than 50 sq. miles, the Collector of the district may order inspection of fields to estimate outturn and if the yield is one-fourth the normal yield or less, he will grant full remission or half the remission if the yield is half or less of the normal yield. This concession should also be extended to cases of loss of crop due to insect pests and plant diseases.
- (14) In the case of unirrigated dry crops affected by hailstorm, the damage caused need not be over an area of not less than 50 sq. miles. Remission should be granted for such damage even in smaller areas, down to individual survey fields, in the manner prescribed in item (13) above.
 - (15) In respect of coconut gardens ravaged by cyclones, remissions should be granted for a period of three years so as to enable the trees to recoup, adequately, to yield normal crops. The limit of 50 sq. miles need not be insisted upon in the case of coconut gardens where the damage is caused by cyclone, floods, etc. In such cases remission should be granted even for smaller areas, even down to individual survey fields.
 - (16) We are of the view that the instructions in Board's Standing Orders Nos. 13 and 14 should be followed in the entire State as they are exhaustive, subject to the above modifications.

Paragraph 10.—Time and method of collection of Land Revenue.

Everyholder in the State should pay the revenue due on his land on or before the day on which it falls due, according to the 'Kistbandi' or other engagement and where no particular day is fixed, at any time before the day on which the payment actually falls due, according to local usage. The 'Kistbandi' for the State is as follows:—

KISTBANDI OF RYOTWARI LAND

	·	PROPOR	RTION (OF ANN	UAL	TA:	X PAYA	BLE EAG	сн мо	NTH
	District	De- cember	Ja- nuary	Fe- bruar	Ма у с	ar- h.	Ap- ril.	May.	Ju- ne.	To- tal.
		A.P.	A.P.	A.P.	A.1	P.	A.P.	A.P.	A.P.	A.P.
Srik	akulam:									
1.	Burza, Palakonda, Na- garam & Viraghattam firkas in the Palakond taluq.		8_0	_4 C) 4	0		••	••	16-0
2.	Other portions of the district	. 4 0	4 0	4 0	4			• •	••	16-0
Visa	khapatnam:									
1.	Yellamanchili taluk .		4 0	8 0	4	0	••	• •	••	16-0
2.	All other taluk .	. 4 0	4 0	4 0	4	0	• •	••	•)•	16-0
East	Godavari:	di di			1					
1.	All taluks except Yella- varam, Chodavaram, Bhadrachalam and Nugur.		्र बन्द्रपंच	हा । ज्ञान	/					
(a)	Dry and Wet lands .		4 0	4 0	8	0		• :		16-0
(b)	Lanka lands, Padugai lands except those of Razole taluk .		• •	8 0	8	0	• •		• •	16-0
(c)	Padugai lands of Razole taluk	•••	5 4	5 4	5	4	••			16-0
2.	Nugur Taluk									
(a)	Holdings in regularly surveyed, and settled villages.		.,	8 ()				8 0	16-0
(b)	Lankas (Salable)	••	8	0 8	0			••	•••	16-0
	Patch cultivation	••		••	••			••	16-0	16-0
3.	Bhadrachalam taluk	••	••	8 0	8	0	. •	••	••	16-0
4,	Yellavaram taluk	• •	5 4	5 4	5	4	••	• •		16-0

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KISTBANDI OF RYOTWARI LAND—Cont.

District)e-	Ja-		Fe-		1	ſar.	Ap-		T	т.
District		mber		ry					ril.	May	Ju- ne.	To. tal.
		A.P.	A	.Р	A.	P.	A.	P.	A.P.	A.P.	A.P.	A.P.
5. Chodavaram taluk												
(a) Dry lands		4 0	4	0	4	0	4	0	• •	• •		16-0
(b) Wet lands		• •	5	4	5	4	5	4	• •			16-0
West Godavari :												
(a) Dry & Wet lands			4	0	4	0	8	0			• •	16-0
(b) Lanka and Padugai lands			_ 1		8	0	8	0				16-0
Krishna:		6				全	1					
(a) Dry and Wet lands			4	0	4	0	8	0	• •	• •	• •	16-0
(b) Lanka and Padugai lands							8	0	8 0			16-0
(c) Lanka refitals on leas	se 		5	4	5	4	5	4	• •	••	••	16-0
Guntur:		Ť.										
(a) Ongole taluk			4	0	4	0	4	0	4 0	• •	• •	16-0
(b) Other taluk			4	0	6	0	6	0				16-0
Nellore:												
(a) Kanigiri taluk			4	0	4	0	4	0	4 0		••	16-0
(b) Kavali taluk		• •				•	6	0	6 0	4 0		16-0
(c) Other taluk					4	0	4	0	4 0	4 0		16-0
Cuddapah		••	4	0	8	0	4	0		••.		16-0
Anantapur	٠.	••		•	4	ŧ () ;	8 () 4 (16-0
Kurnool:												
(a) All the villages in Gidalur and Markapur taluks and the red so and black soil village of Nandyal, Nandikotkur, Kurnool, Dine & Allagadda tqs.	r oil es ho-		4	0	8	0	4	0				16 -0

	Propo	RTION	OF	AN	NU.	AL '	TAX	PAYA	BLE EAG	ом на	NTH
District	De- cember	Ja-	ry b	Fe			ar.	Ap- ril.	May.	Ju ne.	To-
	A.P.	A.]	Ρ.	A.]	Ρ.	Α.	P.	A.P.	A.P.	A.P.	A.P
(b) Alur and Adoni t	.q	• •	,	4	0	8	0	4 Ô			16-0
(c) Red soil villages	of										
Pattikonda taluk	• •	4	0	8	0	4	0	• •			16-0
(d) Black soil village noted below of I konda taluk.											
1. Narakoduddi	• •										
2. Devanabanda.			1-1-1-1 1-10-1		3						
3. Chinna Hulthi	• •	20	he		F1	f. 1					
4. Peda Hulthi	••				g,	7					
5. Pattikonda	• •	3.			9	7					
6. Hosur	• •	Į,	11								
7. Puchakayalaman	ıda		4		1	à					
8. Buruzala	• •	12.		T)	14						
9. Maddikera (N)	••	(ICH)) iv	· V	ار آمار معام						
0. Maddikera	••	200	त्रम	9 3							
11. Maddikera Agra	haram										
2. Maddikera East	• •	4	0	8	0	4	0		••		16-0
(e) Remaining black villages of Pattil Taluk	soil konda	4	0	8	0	4	0		••	••	16–0
(f) Koilkuntla taluk		4	0	8	0	4	0		••	••	16-0
Ch ittoor		. 4	0	4	0	4	0	4 0			
Jit \$11001	• •	7	•	7	v	7	v	7 U	••	• •	16-(
	TELAN	GANA	R	EG	Oli	N.					
(a) Kharif & Abi	Crops	••	lst .	Jan	uar	y to	21	st Janı	uary.		
(b) Rabi	• •	1	st A	Apr	il te	o 21	lst /	April.			
								h June.			

- (2) The land revenue is payable in the months of December to June in the Andhra area and on three occasions in Telangana area. Any sum remaining unpaid after the 10th of the month specified in the kistbandi is treated as an arrear in the Andhra area. Coercive steps prescribed in the Madras Revenue Recovery Act, 1864 as amended, are resorted to for the recovery of the arrears of land revenue.
- (3) For the land revenue collected, a receipt is issued in form No. 18 to the person paying, by the village headman or the Munsif and the Karnam in token of acknowledgment of the amount paid.
- (4) In Telangana, land revenue receipts were given separately for every payment but each land owner was required to maintain a 'Pouthi Book' in which the demand and amount collected on different dates are entered and entries are duly attested and signed by the Patwari. The Board of Revenue has since issued instructions for the maintenance of Kirdi-cum-Receipt Register and there will be no need to maintain Pouthi books, hereafter. The Kirdi-cum-Receipt Register will serve the twin purpose of Kirdi (Cash Book) and receipt as the duplicate copy of the receipt forms the Cash Book.
- (5) The Village Officers' Enquiry Committee has discussed this topic, in great detail, and suggested the issue of a pass book to a ryot which would enable him to know the amounts outstanding. He could also use it for obtaining loans from the Government Banks, Co-operative Societies or Agricultural Department and these institutions will note the grant of loans and hypothecations in it, to prevent the same land being hypothecated for more than one loan. The pass book could also be used for entering loans dues paid by the ryot. We recommend that the suggestion of the Village Officers' Enquiry Committee should be implemented.
- (6) We recommend that an amount of Re. 1 per patta may be collected from each land holder for payment to the Karnam, to make the entries in the pass book.
- (7) The mode of collection of land revenue in force in the Andhra and Telangana regions is more or less the same. The provisions in the Madras Revenue Recovery Act, 1864 as amended and in the Hyderabad Land Revenue Act, 1317 Fasli have been integrated and the Madras Act has been extended to Telangana.

- (8) For fixing the time of collection of land revenue the crops grown in the State are divided broadly into two categories.—
 - (1) Kharif, Mungari, Punasa, and Abi paddy, and
 - (2) Rabi, Hingari, Pairu, and Tabi paddy.
- (9) The kist months have been fixed with reference to the harvest of these crops.
- (10) In our tours, representations have been made that there should be a change in the dates of payment of land revenue. In the questionnaire issued by us, we called for the views of the public in regard to the present system of payment of land revenue. In their replies, many of the non-officials have stated that the time of collection of land revenue should be so fixed as to enable the ryots to sell their produce at a reasonable price and in proper time.
- (11) The Kharif or early dry food crops harvested in October and November are usually retained for the consumption of the producer's family and his cattle. Paddy which is harvested in the last week of November and in December, after drying, is sold in the market in January. The prices of irrigated crops like paddy are usually settled after Pongal festival. At present, the first kist falls due on 1st December. The ryot will have to pay the first kist by under-selling the grain, or borrowing locally from money lenders. We consider that the ryot should have the facility to sell his grain, without undue haste, after watching the market conditions, before he is called upon to pay his land revenue. We, therefore, recommend that the collection of land revenue should commence after Pongal (Sankranthi) festival as prices of grains will be settled then. We, therefore, recommend that the Kist months should be, altered and collections made in the months of February and March, in equal proportions for the demand accruing on Kharif and first irrigated crops and in the month of June for the demand accruing on Rabi, second and third irrigated crops including the miscellaneous items of revenue, settled during the Jamabandi.

CHAPTER XIII.

Splitting up consolidated wet rates into dry assessment and water charge.

The methods involved in fixing charges for irrigation vary from State to State. They can be classified as,

- (a) Charge on classified wet lands.
- (b) Water charge under special projects and
- (c) Water rate on dry lands which are irrigated from Government sources of irrigation.

More than 70 per cent of the irrigated lands are classified as wet in the revenue accounts. For that category water charge is not levied separately. A consolidated rate of assessment is fixed. The basis for such a charge, is the Government's share in the net produce as in the case of dry lands. For purposes of calculation, paddy is taken as the standard wet crop raised. Such a procedure of levying a consolidated charge is found to prevail only in a few districts of Bombay, Burma, Madras and Andhra Pradesh. For theoretical account purposes, however, the charge for water is apportioned from the consolidated assessment and is shown in irrigation accounts to be credited to Revenue from irrigation. The consolidated charge is considered to be simple as there is the advantage of elasticity, and as by its application, levy of multiple taxes can be avoided. In fixing the consolidated rate, all the circumstances of each survey field, the productiveness of the soil and its proximity to the market are taken into account. In Telangana, while fixing the consolidated wet rate, consideration was given to the soil-value and irrigation-value, depending on the character and nature of irrigation, made available to each unit of land.

2. In all States excepting those mentioned above, water charge is fixed and collected separately from the land assessment. The area irrigated and the kind of crop grown are the factors taken into account while arriving at the fixed water charges. No extra charge is made for additional waterings but deductions are made from it for lift irrigation. When failures of crops occur, remissions of irrigation-dues are granted according to the degree of damage.

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3. Various opinions have been expressed on the question of levy of wet assessment in terms of consolidated wet assessment. The Taxation Enquiry Committee, 1924-25 observed that the consolidation of the charge for water with the land revenue was no longer appropriate and recommended that this system of levying the water charge should be abandoned. Sri N. Raghavendra Rao, Special Officer for Land Reforms in Madras in 1947 examined the question of splitting up of the element of water charge from the consolidated wet rate and

considered that it was not practicable to change it at least in the case of the lands already registered as wet. The Land Revenue Reforms Committee, Madras, recommended in 1951, that consolidated wet assessment should not be disturbed, that in respect of old projects, dry assessment and water rate should not be separated and that in respect of new projects the lands should be retained as dry and a separate water rate for irrigation should be levied. The Taxation Enquiry Commission, 1953-54 observed "excepting that the value of water is in some measure influenced by the nature of soil in the area under irrigation, there is no other reason for lumping land revenue and water charges together. This practice has, however, been discarded on all new works......."

- 4. The system of consolidated charge was not given up for the following grounds—that splitting up of the two components (dry assessment and water charge) would be complicated and laborious process; that there is really no satisfactory alternative to the consolidated wet assessment under the old projects; that the system is simple and capable of being applied with less cost without involving much field inspection, without the need to write up a number of accounts and without giving scope for frequent complaints from the ryots that water from the Government sources was not used.
- 5. In order to justify the expenditure of money borrowed for the construction of irrigation works, a policy that the increased return from the works should yield an income, atleast equal to the interest on the capital outlay on the works, was ordered to be adopted. It was also ordered in 1868, by the Secretary of State for India, "that a clear account of the returns directly due to irrigation should be maintained. It was found that the two elements of income—the one from the irrigation and the other from the land revenue—could be arrived at only in an arbitrary and imperfect manner." After further detailed examination of the question, in 1876, a method of allocating the shares due to land and irrigation for each individual field was devised, though however the then Board of Revenue did "While the matter was thus dragging on, in May 1878, the Secretary of State criticized the Madras Government's budget for having budgeted for a very small figure under irrigation revenue and emphasized the need for the separation of the two elements......" Though accuracy could not be achieved, a method was evolved in 1880 by calculating the dry rate applicable to the class and sort of each wet field and determining the difference between the wet assessment and dry rate

and taking that the difference would represent the charge for water. By tabulating the results for several years, it was found that these two elements showed a fairly constant ratio. On this basis certain percentage was fixed in 1917 to represent the water-charge-element on the actuals of the previous ten This percentage underwent a change in 1930. difficulty will not exist, if the classification of lands as consolidated wet is abolished and elastic water charges are separately levied. When the principle of basing water charges reference to the expenditure on the new works is recognised, as recommended by several Committees, there can be no valid objection to the splitting up of the two elements on wet lands, even under the old projects if a simple method is suggested. When the first process of splitting up is completed, it will be very easy to levy water charges, afterwards. The system of levy of the fixed water rate does not take into account the relative soil values of the lands when irrigated. Soils which are good for dry crops may not be equally suitable for wet crops and vice versa. If the charge for water is the same for all kinds of soils, it would bear heavily on the poor dry lands. This difficulty was recognised in the Cuddapah and Kurnool districts where a double classification was assigned to each dry survey field viz., the classification as dry and the would-be classification as wet. This was however found to be complicated and was later given up. The best course will, therefore, be to abolish the classification of wet and to fix lower rates of water charge for the inferior classes of dry lands. The levy of fixed water rates will be in strict accordance with the provisions of the Madras Irrigation Cess Act, 1865 as it empowers the Government to levy water cess at such rates as will secure a reasonable return in all cases. The Board of Revenue, Andhra Pradesh, Hyderabad, has, in its proceedings Mis. No. 630/57, dated 1st December 1957 recommended the retention of the consolidated wet assessment in respect of old projects but did not recommend the conversion of dry lands under the new and old projects and irrigation works to wet in future.

6. We consider that a beginning has to be made to split up the two elements of assessment and water rate so that accurate accounts of capital outlay can be maintained, especially, when crores of rupees are being spent on projects. In so maintaining, the accounts showing a comprehensive position of all projects—old and new—will always be available for guidance for future development. The objections raised by some of the earlier Committees that the work of inspection of lands and the

labour involved in writing up of accounts would be enormous, if consolidated wet is abolished and the lands are registered as dry, has been met in our recommendation in paragraph 2 of this chapter. After a careful examination, we recommend that in future, the land assessment should be fixed on the basis of its dry land potential and that the charge for irrigation should be on the basis of a charge for service by the Government. The details of procedure to be followed for the application of this principle without undertaking a resettlement but only on the basis of available information in the Revenue Accounts in this State has been indicated in paragraph 1 of Chapter X.

Paragraph 2.—Revision of the rates of charge for irrigation by a grouping of soils and a reclassification of irrigation sources.

- 1. "India owes in a great measure to the former rulers, for the first inception of her present unrivalled system of State Irrigation works." There are great possibilities for development of river projects in the Andhra Pradesh and large amounts are necessary to achieve this end and also to maintain the projects after their execution. The ryots have therefore to pay adequately to the Government, for the service rendered, by providing irrigational facilities, to enable the government to meet the working expenses and interest charges on the capital outlay. It is of vital importance to consider the principles of levying charges for irrigation—whether the appropriate basis should be the initial cost of project and its maintenance or whether there should be a uniform rate for all sources, which give the same quantum of supply regardless of the cost incurred by the Government in the construction.
- 2. There is an increase in the yield of crops to the ryot on account of irrigation. The Government have to secure a share of this increased yield which the ryots derive from their lands, due to irrigation, irrespective of the cost incurred by the Government for the supply of water. The charge for water represents this additional share. In some places the charge for water is regarded as a charge for services rendered based on the initial outlay in constructing the project and in maintaining it. It is also supplied on commercial basis. In some other places the charge is based on the increased income derived on account of irrigation and the crops raised. The direct financial return on the capital outlay of the works has been considered to be of secondary importance. The primary considerations while sanctioning works are invariably (a) the increase in the general prosperity of the community due to the increased

produce on account of irrigation, (b) the prevention or mitigation of the horrors of famine, (c) the increase in the humidity and the rise in the level of underground water supply and (d) flood control. In places where the rainfall and natural configuration of the country aids irrigation, the existing rainfall acts as a supplement to the irrigation and it will be therefore equitable that areas commanded by old irrigation projects and situated advantageously should pay at a higher rate. Some of the new projects are not advantageously situated but have been executed at a greater cost and their ayacuts require a good deal of reclamation and development. The areas under such new projects have been subjected to higher rates resulting in hardship to such areas. Thus the determination of water charge has to be considered as an integrated problem for the whole State. Increase in water cess in prosperous areas is essential not only to meet the maintenance charges but also to provide funds for the execution of projects in under-developed areas.

- 3. From the financial point of view, the irrigation works are classified as productive, protective and minor works. Productive works yield a profitable return on the amount spent in constructing them. In tracts of scanty rainfall, which are often subject to famine, the provision of protective irrigation works is essential so as to avoid or reduce the expenditure on relief works when there is actual famine. In such cases, the principles of adequate return cannot be rigidly applied and a relaxation of the principles is necessary. Expenditure on such works is quite appropriate inspite of low returns on the outlay of these works. All other sources fall under "minor works" which the Government had to take over with responsibility and incur certain expenditure for their improvement and maintenance in the course of normal administration. difficult to determine very accurately the increase of revenue expected with reference to the expenditure incurred in respect of these works. Besides these factors, crops and their prices provide basis for the determination of the rate After a careful consideration of all these water. aspects, we hold that the productivity of the soils, the capacity of the source i.e., the duration of the supply and the ability of the ryots to bear the charge are chief factors which should weigh in determining the water rates. The detailed basis for the rates recommended by us are discussed in the succeeding paragraphs.
- 4. In the Andhra region, water rate is charged whenever water is taken from a government source of irrigation for the

irrigation of lands classed as dry for the irrigation of a second crop or a Dofasl crop on lands classified as single crop In the case of single crop wet lands no separate water rate is chargeable for the irrigation of first crop, since the wet assessment payable thereon includes charge for water in addition to assessment on land. The water-rate levied for raising a second wet crop on single crop wet lands is called fasli-jasti. Water-rate is levied in the Andhra region under the Madras Irrigation Cess Act, 1865, which states that whenever water is supplied or used for purposes of irrigation from any reservoir, tank, river, stream, etc., belonging to or constructed by or on behalf of the Government, it shall be lawful for the Government to levy a separate fee for such water in accordance with the rules prescribed under the Act. In appendices to B.S.O. 4, the rates of water cess prescribed for the several types of sources in the several districts or tracts and for the several crops grown are mentioned. From these appendices, which are about a dozen in number, it would be found that there is neither simplicity nor uniformity nor equity in the matter of levying water charge, with the result the ryots do not have a clear idea about the exact rate at which they have to pay water rate for the crops grown by them.

- 5. Generally speaking, there are two systems of levy of water rate on dry lands irrigated from government sources of irrigation. (1) fixed or special water rate system and (2) differential water rate system. In the fixed water rate system a flat rate of Rs. 6-4-0 per acre in the case of irrigation of a single wet crop under a I class source in Godavari and Krishna deltas and at Rs. 5 per acre for similar irrigation under a II class source are charged. Under the Tungabhadra project and under the several medium-size projects recently sanctioned, a flat rate of Rs. 15 per acre is being levied without any reference to the type of soil which is irrigated although it has a definite bearing on yield of crops. The Government appear to have fixed this flat rate after obtaining the consent of the people benefitted by these projects and worked out the financial forecasts. The flat rates levied may be considered to be 'owners rates or agreement rates.'
- 6. Under the differential water rate system, dry lands are charged water rate at rates equal to the difference between wet assessment and corresponding dry assessment on the land. This system is now in force in the districts of Srikakulanı (Nagavalli project area), Kurnool, Cuddapah, Kadiri taluk of

Anantapur district, Vayalpad and Madanapalli taluks of Chittoor district and Nellore. The merit claimed for the differential water rate system is that it ensures that the charge for water is commensurate with the yielding capacity of the land irrigated, while the fixed water rate system, has the advantage of simplicity. The relative merits of the two systems were examined several times in the past but the government have been allowing both the systems to prevail in the different areas as they did not like to interfere with the settlement rates fixed. A statement showing the standard scale of water-cess and the special project rates in force in Andhra region is appended. (Appendix No. 6). An extract from the note of Dr. B. Gopala Reddy, ex-Finance Minister of the Andhra State, submitted to Legislature in 1955 for revising water rates is extracted below.—

"The rates under the standard scale of water cess were fixed as far back as 1873, i.e., 82 years ago, and have remained unchanged since the beginning of this century.

"The special project rates were fixed at different times, according to the completion of the project concerned. The more important factors taken into consideration in the fixation of the special project rates were.—

- (a) the nature of the project, whether productive or protective;
- (b) the cost of the project; and
- (c) the ability and willingness of the ryots affected to bear the charge.

In the case of 'productive' works, the principle adopted was to fix the water-rates at a level which would bring in an adequate return on the capital invested, while in the case of 'protective' works the main consideration was 'what the land will bear'.

"The distinction between productive and protective works has however, largely disappeared in recent years, as irrigation projects have, as observed by the Taxation Enquiry Commission come to be considered "more from the point of view of the totality of welfare the schemes help to create, than from that of the prospect of immediate cash returns." Formerly very few irrigation works were undertaken unless they were considered financially sound. In recent years, however, the

financial tests have been relaxed to a great extent and many irrigation projects have been undertaken as protective works although they have not satisfied the test of being financially remunerative. It may be seen that even out of the works classified as productive, only Godavari and Krishna systems have been remunerative.

"Owing to the general rise in prices, the maintenance costs of the various irrigation projects have greatly increased. A statement indicating the expenditure incurred on the irrigation projects for which Capital and Revenue accounts are maintained and the revenue derived therefrom during the last few years is shown below:—

statement indicating the gross revenue, working expenses etc., in respect of irrigation projects for which capital and revenue accounts are maintained.

(Andhra area)

(Figures in lakhs of rupees)

Year		Gross revenue	Working expenses	Net revenue	Capital expenditure	Interest on capital
1946-47		137.23	47.01	90.22	881.53	38.00
1947-48		136.40	57.35	79.05	1,022.91	42.10
1948-49		139.55	60.31	79.24	1,304.22	52.08
1949-50	. • •	121.13	71.48	49.65	1,581.46	61.96
1950-51	• •	126.58	79.24	47.34	1,842.23	73.10
1951-52		127.74	78.01	49.73	2,223.89	87.66
1952-53		132.67	126.33	6.34	2,699.08	109.58
1953-54 (2nd		134.44	28.69	105.75	••	65.15
months according 1954-55 (Rev		119.18	89.28	29.89	••	139.98
estimates). 1955-56 (Bud estimates).	get	120.06	82.29	37.77	••	142.77

It will be seen therefrom that, while the working expenses and the interest charge rose from Rs. 47.01 and Rs. 38.00 lakhs respectively in 1946-47, to Rs. 126.33 and Rs. 109.58 lakhs respectively in 1952-53 and to Rs. 82.29 and Rs. 142.77 lakhs respectively in 1955-56, the gross revenue fell from

Rs. 137.23 lakhs in 1946-47 to Rs. 132-67 lakhs in 1952-53. According to the budget estimates for the current year, the total revenue from irrigation works for which Capital and Revenue accounts are maintained is Rs. 120.06 lakhs. against this, the working expenses and interest charges on those projects come to Rs. 82·29 and Rs. 142·77 lakhs respectively totalling to Rs. 225.06 lakhs. The deficit in the revenue on account of irrigation is thus of the order of Rs. 105 lakhs. If this deficit is to be made good entirely by an increase in the water rates, they would have to be enhanced by 87.5 per cent. The only other source besides the increase in water rates from which an additional revenue on account of irrigation could be derived, is the levy of betterment contribution on lands benefited as a result of the irrigation works. To the extent however that the additional revenue derived from increased water-rates and levy of betterment contributions will not suffice to make good the deficit in the revenue from irrigation, our irrigation projects will perforce have to remain subsidised from the general revenues. It would also follow that to the extent that the irrigation projects constitute a burden on the general revenues, the scope for undertaking new irrigation projects will become restricted. It is imperative, therefore to raise additional irrigation revenue by an increase of water-rate and levy of betterment contributions in order to be able to meet the maintenance charges and the interest charges, and repay the loans from which the irrigation projects are being financed, and thus relieve to an extent the general revenues of the encumbrance which the irrigation projects at present constitute. It may be stated, in this connection, that the income from levy of betterment contribution will not be very appreciable and it follows that the deficit in the irrigation revenue will have to be met largely by increase of water-rate. There is thus an incontestable case for considerable enhancement of water rates. The Government have proposed that they may be raised by 25 per cent only, excepting where, as in the case of some of the more recent projects the water-rates fixed or proposed are sufficiently high.

"As has been explained earlier, at the present level of water-rates, the existing irrigation projects are unremunerative, the only exceptions being the Godavari and Krishna delta systems. In almost all the new projects which are now being undertaken provision is made for levy of water-cess at rates substantially higher than the rates applicable to the old works. Due to the levy of water-cess at enhanced rate in the

case of the new projects, they will prove less burdensome to the general revenues than if water-cess should be levied at the rates applicable to the older irrigation projects. An incongruous result would, however, follow, especially in the case of the tracts served by both the old and new irrigation projects, since widely varying rates of water cess would be levied according as the irrigation source is old or new although the benefit derived by irrigation would be identical in both the cases. A review of the rates under the older projects would therefore, both be necessary and justifiable.

"It may be stated, in this connection, that several State Governments have, as pointed out by the Taxation Enquiry Commission already increased water-rates; for example the Uttar Pradesh Government imposed in 1948 a surcharge of approximately 50 per cent in the irrigation rates, and later enhanced in 1953, the water-rates including surcharge by about 50 per cent. These increases were calculated to enable the Uttar Pradesh Government 'not only to meet the working expenses but to provide resources for undertaking new irrigation works or extending existing ones'. It is understood that the Uttar Pradesh Government have since allowed a rebate of 50 per cent of the increases made in the water-rates since 1953.

"As a principle of rationalisation of water-cess, the Taxation Enquiry Commission has recommended as follows.—

सन्दर्भन नवन "Ordinarily, water-rates must cover the maintenance charges, i.e., the policy must be no profit but also no loss. But to this, there would be several exceptions. A policy of no profit and some loss would in our opinion be justified in the case of an irrigation work for a scarcity area which is being economically developed. On the other hand, a policy of some profit and no loss would, we believe, be justified where an irrigation project has been provided for a fairly well-off area or where an old work existed from which benefit had already been derived and continues to be derived by cultivators in the region." They have also observed that where because of the low cost of construction and maintenance of old irrigation works, water rates are much lower than in other areas and undue advantage from these low rates is derived by individual cultivators, the State Governments would be justified in increasing the water rates by adding an element of tax with a view to appropriate to the general revenues some part of these large benefits that have accrued.

On the basis of this note, Government of Andhra passed the 'Andhra Additional Wet Assessment Act, 1955', which was further revised by the Government of Andhra Pradesh in the 'Andhra Pradesh Additional Wet Assessment (Amendment) Act of 1957'."

- 7. It may be observed from the developments narrated above that the Acts and the Wet Assessments now in force are so complex that several representations have been received by us to evolve some system by which the levy of assessments and water-rates could be simplified and collected in one lumpsum instead of leaving the ryots to depend upon the karnams and revenue officials who in view of the enormous increase in their work have neither patience nor the time to explain the details to the pattadars. We have also discussed at length the question whether the rates fixed uniformly for all lands irrigated by new projects should be retained in view of the fact, that the return was already reported in the financial forecasts of the projects concerned.
- 8. With reference to the orders on which these projects rates are based, we are constrained to observe that a uniform levy of the rate would cause undue hardship to the owners of lands with inferior soils while it may leave the owners of lands with fertile and superior soils with a lighter levy. Though the benefits of irrigation are considerable and though it can be assumed that the income from wet lands is about five to six times that of dry land, there is considerable variation in the quantum of benefit derived by irrigation of dry lands depending upon the type, nature and texture of the soils. The principles that weighed with the Committee are uniformity, simplicity and equity in the matter of levy of water rates and assessments. While it may not be possible to go into the minute details regarding the class and sort of the soils followed in the settlement systems of Andhra or consider the advantages of proximity to the village, defects in the soil, etc., which have been adopted in Telangana, it is necessary to have clear divisions which are called Grades of dry soils on the one hand and classification of irrigation sources depending on their capacity and the assurance of supply on the other. These divisions and classifications have to be simple enough to be understood by the ryots while at the same time cover the variations in the yields of crops on which the incomes depend. The ex-Finance Minister Dr. B. Gopala Reddy, in his note stated that on the basis of water-rates now levied

the Government have been paying from the general revenues a sum of Rs. 105 lakhs to meet the increasing charges on account of working expenses and interest charges on the old and new projects. There is no justification for making the general tax-payer pay this amount which should legitimately be borne by the beneficiaries. We are in entire agreement with the valuable suggestions made by Dr. B. Gopala Reddy, in his note, in favour of increasing the rates of water-cess in the old Godavari and Krishna projects under which the ryots are not paying an adequate share of the net profit derived by them to the Government like the ryots in the other recently developed project areas.

- 9. We have also mentioned the procedure followed in Telangana for classifying sources and the soils. What has been stated on the procedure, in Andhra, applies equally to Telangana where the system is also too complicated to be readily appreciated by ryots.
- 10. The comparison of the rates of wet assessments in the Andhra and Telangana areas reveals that the rates of assessments in Telangana are somewhat higher, even though the yields are lower. Several representations have been made to us during our enquiry that in Telangana, a tank having an avacut of more than 30 acres has been assigned the same class as that of a major project like the Nizamsagar or the medium size project like Paler, Wyra and Manair. The maximum water-rate component of wet assessment in the Telangana is definitely more than Rs. 15 per acre which is the water-rate charged for a single wet crop on the projects sanctioned in the Andhra area within the last two decades. There need be no disparities in the pitch of water charges in the two regions of The irrigation under the Godavari and Krishna which bring down a lot of valuable silt and also soluable plant neutrients confers definite benefits to the crop in that it does not need heavy manuring as in the case of other wet lands. There is every jurisdiction for the Government to take a reasonable share in the advantages derived by such irrigation from big rivers and also from the better yields of crops realised in the deltas, without causing any inequity by such increase in the water-rates.
- 11. The Taxation Enquiry Commission has vehemently condemned the differential water-rate system "as unsound in theory and extremely clumsy in practice". Except in the composite Madras, Bombay and Burma, the differential water-rate

system is not in vogue in other states of India. After a thorough discussion we have come to the conclusion that in future the assessment on irrigated land should consist of dry assessment depending on the quality of soil and the charge for irrigation based on the quantum of service rendered by the Government. Eventhough the income from wet land is several times that of dry land, still for the service done, we are not suggesting the levy of a uniform rate but graduated rates related to the soil value of the lands on which the yields would depend.

12. After deep consideration and careful examination, we recommend the following table which should form the basis for the levy of water-rates on different grades of soils from different classes of irrigation sources. In our view this table embodies the principles of equity, uniformity and simplicity.

Lands in the Andhra region are now divided according to the settlement principles into five series. They are further divided into classes and sorts. The recognized table of soils is given below.—

Series	Class	Description	Sorts
Alluvial and exceptional.	I	Clayey (upwards of two-third clay)	1 Best. 2 Good. 3 Ordinary. 4 Inferior. 5 Worst.
	11	Loam (containing from one-third to two-thirds clay) permanently imp- roved, i.e. lands in the beds of ruined tanks and sites in ruined villages	1 to 5
Regar .	. III	Clay regar, containing upwards of two-thirds clay	1 to 5
	IV	Mixed or loamy regar, containing from one-third to two-thirds clay	1 to 5
	V	Sandy regar, containing not more than one-third clay	1 to 5
Red ferruginous	VI	Clay containing up-wards of two-thirds clay.	1 Best. 2 Good. 3 Ordinary. 4 Inferior. 5 Worst.

Series	Class	Description	Sorts
	VII	Mixed or loamy containing not more than one-third clay	1 to 5.
	VIII	Sandy or gravelly containing from one-third to two thirds clay	do
White and grey calcareous.	ΙX	Clay containing upwards of two-thirds clay	do
	X	Mixed or loamy containing from one- third to two-thirds clay	do
	XI	Sandy or gravelly under one-third clay	do
Arenaceous		Loamy or mixed one-third to two-thirds clay	do
	XIII	Sandy containing from one-third to one-tenth clay	do
	XIV	Sand under one-tenth clay	do

This classification is found to be rather elaborate to evolve a new table for levy of water rates. The new divisions have to be simple enough to be understood by the ryots while providing for variation in their yields. It is, therefore, proposed to divide the existing soils into four grades.

Grade I.—Superior Alluvial soils.

In Andhra, Class I alluvial clay soils with sorts I-A, 1 and 2, Class II alluvial loam with sorts I-A, 1 and 2. (There are no such soils in Telangana).

Grade II.—Good soils.

In Andhra, class I alluvial clay soil with sort 3, class II alluvial loamy soils with sort 3, class III regar or black cotton clay soils with sorts 1 and 2, Class IV regar or black loamy soils with sort 1, class VI red clay soils with sorts 1 and 2 and class VII red loamy soils with sort 1 and lands of Telangana with wet Bagannas above As. 14.

Grade III.—Medium soils.

In Andhra, class 1 alluvial clay with sort 4, class II alluvial loamy soils with sort 4, class II black cotton clay soils

with sort 3, class IV black loamy soils with sorts 2 and 3, class VI red clay soils with sort 3, class VII red loamy soils with sorts 2 and 3, class XII arenaceous loamy soils with sorts 1 and 2, Class XIII arenaceous (fine sand) soils with sort I and lands of Bhaganna of As. 11 and above but up to and including Bhaganna As. 14 of Telangana.

Grade IV.—Inferior soils.

All the classes of soils and sorts which are not mentioned in the above three grades and lands bearing Bhagannas below Re. 0-11-0 in Telangana.

- 13. Lands of Grade I soils are found mostly in the deltaic tracts of Krishna and Godavari. They are the best lands in Andhra Pradesh giving rich yields and can afford to bear a water rate higher than what the lands under Tungabhadra are now charged. These lands do not require much manuring due to the fertility of the silt and the plant nutrients carried by the flood waters.
- 14. In Telangana there are no lands which fail under the proposed grade I soil. Soils in Telangana are classified in terms of wet "Bhagannas" and for every defect a deduction of a class is made. Under Grade II, lands bearing a classification of more than As. 14 wet Bhagannas without deducting the milewar allowance will be included. In Grade III, soils classified with wet Bhagannas As. 14 and below upto and including wet Bhagannas As. 11 will be included. In Grade IV lands with classifications of wet Bhagannas below As. 11 will be included. These classifications of Bhagannas, are for wet lands. In arriving at the dry component of the assessment on these irrigated lands the milewar which is now allowed as a defect for lands situated at a distance of more than 2 furlongs from the village will be omitted and the corresponding dry assessment worked out on the basis of wet Bhagannas. There will be no difficulty as the maximum dry assessments fixed for each group are the 16 Bhagannas rate. After a careful examination, we consider that the distribution of classes and sorts into Grades in Andhra would very nearly correspond to the analysis of the wet Bhagannas in Telangana into the four grades.
- 15. In future, no land should be registered as wet but dry lands should be classified as A, B, C and D on the following basis to enable the ryots to know the type of irrigation he is entitled to, for growing suitable crops.

- 'A' Class dry lands will be those which now stand registered in the revenue accounts as compounded double crop wet lands or double crop wet lands or for which there is an assurance of water supply for raising two heavily irrigated wet crops or a dofasal crop.
- 'B' Class dry lands will be those which now stand registered in the revenue accounts as single crop wet lands or for which there is an assurance of water supply for raising a single heavily irrigated crop of not more than six months duration.
- 'C' Class dry lands will be those which are now included in the dry-irrigated zones of projects and for which there is an assurance of water supply for raising one dry crop with light irrigation.
- 'D' Class dry lands will be those which are not entitled to any supply of water but include manavari, Asmanitari and Kariveda lands.

Irrigation of lands falling under Classes A, B and C is compulsory and not optional. As the total of dry assessment and water rate due will be noted in the new village Settlement Registers to be prepared in the place of the present Diglott or Sethwar registers, there will be no need to prepare water rate accounts.

16. Irrigation sources are now classified in the Andhra region with reference to their capacity for the storage and supply of water. By 'capacity' is meant the period for which the water stored could be supplied from the source to its ayacut, with such repeated fillings as the source, usually receives from the monsoons, from supply channels taking off from rivers or streams or from surplussings from the sources higher up, etc. In Andhra, five classes of irrigation sources have been recognized for settlement purposes:

First class.

Exceptionally good sources based on anicuts or reservoirs across perennial rivers like the Godavari and Krishna rivers. The anicuts across these rivers, supply water unfailingly to extensive canal systems dependent on them, for practically the whole year.

Second class.

Irrigation sources affording a supply for eight months and more. Examples are the Cumbum tank, Kodakarla Ava, Singanamala tank, Bukkapatnam tank, etc.

Third class.

Irrigation sources affording a supply for five months and above, but less than eight months.

Fourth class.

Irrigation sources affording a supply for three months and above, but less than five months.

Fifth class.

All minor sources affording supply for less than three months.

In the Telangana, the classification of irrigation sources is made on the basis of "PANI" class according to which a tank with more than 30 acres of irrigable area is classified as first class along with Nizamsagar, Paler and Wyra projects. This is obviously inequitable.

17. After a careful consideration, we have come to the conclusion, that there should be a change in the principles of classification of the sources in both the regions. The levy of water rate, in Andhra is not equitable as the same rate is levied for supply of water under sources I and II is the same, though the period of supply is different. Similarly the rate of water charge now levied for supply of water from the remaining class of sources is the same, though the periods of supply vary considerably. On principles of equity we consider, that the rate to be levied should be proportionate to the period for which an assured supply is made. As we propose to levy different rates for different grades of soils, it is essential that sources also should be classified in a more rational manner to secure equitable rates on a uniform basis to the ryots. It is, therefore, proposed to classify the sources as follows.-

Class-I.

Major projects and tanks in the ayacut of big projects fed by channels from the projects which supply water throughout the year except during closure for repairs.

Class-II.

Medium-size projects and tanks in the ayacut of medium-size projects fed by canals from the projects which usually supply water for the first and second crops.

Class-III.

River channels and tanks which not only regularly irrigate more than 200 acres but also support a Tabi crop of at least 20 per cent of the irrigable area and which supply water for more than 8 months.

Class-IV.

Sona, Bila, Kasam or Uppalvatbonda, spring channels and tanks with an irrigable area of 200 acres and more which usually supply water for more than six months but less than 8 months.

Class-V.

Tanks with an irrigable area of 30 acres and above but below 200 acres which usually supply water for more than 3 months but less than 6 months.

Class-VI.

Tanks with an irrigable extent of less than 30 acres and which are precarious and supply water usually for less than three months. Only sources of this class will be declared as precarious sources.

18. At present water rate levy is the same on alluvial lands, regar lands and lands of inferior soils. The charges levied should, in the opinion of this Committee, have a relation to the yield which the ryot receives from his land by use of the water. With a view to alter the present rates to be in conformity with this principle, we have come to the conclusion that soils of superior fertility should be charged more than inferior lands.

At present lands under different new projects, like Tungabhadra, Byravanitippa are being charged at Rs. 15 per single wet crop. It is only fair that alluvial lands which are far superior in fertility, should be charged more. Lands which are inferior to regar-loam and red-clay should be charged less.

Taking into consideration all these factors, we recommend the following table for the levy of water rates for raising single wet crops of not more than six months duration.

The Committee has considered the question of levy of water rate for the irrigated lands on which sugarcane crop is raised. At present in the Andhra region, for the irrigation of lands on which sugarcane is grown 1½ times the water rate is charged if the land is dry and an additional half wet assessment if the land is registered as single crop wet land. In the Telangana region there is a variety of sugarcane called ADSALI which stands on the ground for 18 months. Now three and half times the Abi wet rate is being levied for such sugarcane cultivation and two and a half times Abi wet rate is being charged for EKSAL sugarcane of eleven months duration. We are of the view that for irrigation of sugarcane more water is required than for paddy. Sri D. V. Rao is of the view that paddy, Abi and Tabi crops, require 120 acre-inches of water at the Head sluice against 156 acreinches for Eksal sugarcane and 200 inches for Adsali or 18 month sugarcane crop in addition to the normal rainfall in the area which is about 30 or 35 inches per annum. entirely agree with his opinion. During summer much water will be required by the sugarcane crop. The loss by evaporation and transpiration is also very great. As the return to the ryot from such a crop is more than that from other crops we are of the view that three times the water-rate as fixed in the table recommended by us should be charged for Adsali sugarcane and two times the water rate for Eksal sugarcane. In respect of Eksali sugarcane twice the will be charged only if water is supplied in summer. If, however, the sugarcane is sown with the aid of well-water, and government water is not taken during the months of April, May and June it should be charged one and half times single water rate.

19. Thus the rates now proposed by us are in complete replacement of the existing charges for water taken for a single crop in both Andhra and Telangana regions. There are other methods of irrigation by rotation, of systematically and occasionally irrigated dry and wet crops in the same fasli year and different rates are being levied for the irrigation of such crops under different sources. In Chapters V and VI of part I, the details of the existing charges have been given. A close examination of these rates revealed to the Committee that some definite proportion formed the basis for fixing these rates. As an example is quoted, the following standard scale of water-cess, levied on different types of crops and methods of irrigation.

	First crop	Second crop	Total charge in the fasli
1.	Wet crop (one rate)	Following wet crop (½ rate)	1½ rate.
2.	Wet crop (one rate)	Following dry crop systematically irrigated. (3/8th rate).	1 3/8th rate.
3.	Wet crop (one rate)	Following dry crop occasionally irrigated. (4th. rate)	14th rate.
4.	Dry systematically irrigated (3th rate)	Following wet crop. (5/8th rate)	1 3/8th rate.
5.	do (¾th rate)	Following dry crop systematically irrigated. (½ rate)	14th rate.
6.	do (≩th rate)	Following dry crop occasionally irrigated, (3/8th, rate)	1 1/8th rate.
7.	Dry occasionally irrigated $(\frac{1}{2} \text{ rate})$.	Following wet crop. (3th rate)	14th rate.
8.	do (½ rate).	Following dry crop systematically irrigated, (5/8th rate).	1 1/8th rate.
9.	do $(\frac{1}{2} \text{ rate}).$	Following dry crop occasionally irrigated. (½ rate).	I rate.

It has, therefore, become necessary for us to propose suitable proportions of water rates to be charged to cover all the items. We find the existing ratios of water charges applied to the irrigation by rotation of wet and dry (systematically and occasionally irrigated) crops in first and second crop seasons are moderate and reasonable and recommend that the same proportions be adopted in respect of the rates recommended by the Committee for a single crop.

- 20. As regards the third crop charge now being levied under some sources for which separate water rates are fixed by the Government, this Committee recommends that
- (i) if the crop raised is green manure or fodder crop there should be no charge,
- (ii) if irrigation is supplemented by wells there should be no charge, and

- (iii) if a third crop—whether it is irrigated dry or pure wet crop— is exclusively irrigated from water of a government source, the charge should be one-fourth of the first crop charge.
- 21. As regards 'Mundlavari' crop, the irrigation of this crop is charged at half water-rate under Kurnool-Cuddapah canal and under some Government sources in Cuddapah, Chittoor and Nellore districts. This is an inferior variety of paddy, requiring less water, used for personal consumption by a poorer section of the public. We do not, therefore, recommend the levy of any charge for the irrigation of this crop.
- 22. The charge for the dofasal crops has been hitherto one and half rates on Government dry lands in the delta tract of East Godavari, West Godavari, Krishna Guntur districts other than those irrigated from Kollair and Upputeru and at 2 rates on the Inam and Zamindari lands irrigated in the Krishna and Godavari deltas and lanka and padugai lands in the Krishna and Godavari rivers and dry lands in the upland villages of the above districts irrigated with water from the Godavari and Krishna rivers. If water is not available in the source for a period longer than that required for raising one ordinary paddy crop a single water rate is charged. The Committee recommends that betel, plantains, turmeric, elephant-yam, coconut and other crops requiring water for more than six months should be treated as dofasal crops and charged in the same proportion. The Committee has already indicated the charge to be levied for sugarcane; that in respect of crops like casuarina, bamboo and other timber and fuel plantations if watered for more than six months, the charge should continue to be three-fourth water rate. If they are watered for less than six months the charge should continue at half water rate.
- 23. As regards baling remissions, the Committee considers that there should be a distinction depending on the height of the lift and accordingly recommends that one-fourth remission should be granted for single lift of six feet and below and half remission for a lift of above six feet for both wet and dry cultivation without fixing any maximum limit per acre.

Incidentally the Committee recommends that there should be no further registry of lands under motasthal or baling ayacut and under Doruvu and Dasabandham wells.

- 24. The Committee finds that irrigation under drains in Krishna and Godavari deltas is being charged as for irrigation under the project canals except that there are special rates for Yanamaduru, Upputeru and Kollair drains. The Committee recommends the continuance of these rates, but however, feels that an investigation is necessary whether the water contains injurious salts detrimental to the growth of the crop in which case a substantial concession would be justified.
- 25. At present the irrigation under pumping installations has been classified on the basis of the source from which the water is pumped and special rates have been prescribed. We consider that the lands under pumping installations do not enjoy the same advantage and benefit as by direct flow from the source and recommend that they should be charged one third of the appropriate water rates recommended by us in the table.

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Table proposed for fixing water rates with reference to soil grades and classification of irrigation sources LAND REVENUE REFORMS COMMITTEE (ANDHRA PRADESH) HYDERABAD.

Grades of Soils: Classes of soils and sorts in Andhra and the Bhagannas assigned for wet lands in Telangana without deducting the milewar allowance	(1)		Grade I—Superior Alluvial soils: In Andhra, Class I alluvial clay soils with sorts 1-A, 1 & 2, class II alluvial loam with sorts 1-A, 1 & 2. (There are no such soils in Telangana)
the system of big projects fed by channels from the projects which supply water throughout the year except during closure for repairs.	(2)	Rs. nP.	17.50
Class W.—Medium size projects and tanks in the ayacut of medium size projects which jects fed by canals from the projects which second crop.	(3)	Rs. nP.	15.00
Class III.—River channels and tanks which not only regularly irrigate more than 200 acres but also support a Tabi crop of at least 20% of the irrigable area and which supply water for more than 8 months.	(4)	Rs. nP.	12.00
Class IV.—Sona, Bila, Kasam or Uppalvat Bonda, spring channels and tanks with an irrigable area of 200 acres and more than 6 months but less than 8 months,	(5)	Rs. nP.	10.00
Class V.—Tanks with an irrigable area of 30 acres and above but below 200 acres which usually supply water for more than 3 months but less than 6 months.	(9)	Rs. nP.	7.50
Class VI.—Tanks with an irrigable extent of less than 30 acres and which are precarious and supply water usually for less than 3 months. Only sources of this class will be declared as precarious sources.	(2)	Rs. nP.	5.00

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(7)	Rs. nP.	4.00			3.00
(9)	Rs. nP.	5.00			4.00
(5)	Rs. nP.	7,50			9.00
(+)	Rs. nP.	0.01			8.00
(3)	Rs. nP.	14.00			11.50
(2)	Rs. nP.	15.00	वेव ज	यतं यतं	12.50
(1)	Grade II—Good soils 1	In Andhra, Class-I Alluvial clay soil with sort 3, Class II alluvial loamy soils with sort, 3, Class III Regar or black cotton clay soils with sorts 1 and 2, Class IV Regar or black loamy soils with sort 1, Class VI red clay soils with sort 1, Class VI red Class VII red loamy soils with sort 1, and 2 and Class VII red loamy soils with sort 1, and lands of Telangana with wet Bhagannas above Re. 0-14-0	Grade III—Medium soils !	with sort 4, Class I Alluvial clay soil with sort 4, Class II alluvial loamy soils with sort 4, Class II alluvial loamy soils with sort 4, Class IV Black-cotton clay soils with sort 3, Class IV black loamy soils with sort 3, Class VI red clay soils with sort 3, Class VII red loamy soils with sorts 2 and 3, Class XII arenaceous loamy soils with sorts 1 and 2. Class XIII arenaceous fine sand soils with sort 1, and lands of Bhaganna of Re. 0-11-0 and above but upto	and including Bhaganna Re. 0-14-0 of Telangana

(4) (5) (6) (7)	Rs. nP. Rs. nP. Rs. nP. Rs. nP.	6:00 4.00 3.00 2.50
(3)	Rs. nP.	8.
(2)	Rs. nP.	वस्त्रमेन नग्रते 00:01
(1)	Grade IV—Inferior soils:	All the classes of soils and sorts which are not mentioned in the above three grades and lands bearing Bhagannas below Re. 0-11-0 in Telangana

*(1) Open mouth river channels which involve some contribution by ryots by way of labour to divert water by forming Korambo bunds should be charged 1/2 of the water rates proposed under Class III of the sources, and

(2) Parre kalvas or river spring channels which require constant labour to maintain regular flow should be charged 1/3rd the water rates proposed under Class III of the sources.

Paragraph 3.—Desirability of levying Water Charge on Volumetric Basis.

The idea of charging for water supplied for purposes of irrigation on a volumetric basis arose from the need to prevent wastage under flow irrigation. Though this has been engaging the attention of the irrigation authorities during the last 50 years, it was not found possible to put it into practice. In Bombay, Uttar Pradesh, Bihar and other States, this system has, however, been adopted in the case of lift irrigation. The principle underlying is similar to the supply of electricity.

As per the general practice which is mostly in vogue, the water tax is consolidated in the land revenue assessment, in respect of old irrigation whereas under the new projects, where dry lands are brought under irrigation, the water tax and land revenue are charged separately. Further the level of water tax bears a relation to the productivity of each individual field, its proximity to the market, village and roads, the duration of supply of water and its dependability, etc. Thus, for purposes of charging water charge, a number of factors have been taken into consideration. However, when the water is supplied for industrial purposes, it is charged on volumetric basis, under the provisions of Board's Standing Order 11 (A).

- 2. Two systems are mostly favoured for measuring the quantity of water supplied.
 - (a) By meter and
 - (b) By Module.

The chief features of these are.-

Meter system.—In this system, the quantity of water actually used is measured on a self-recording meter located at a distance not far removed from the field. Just as consumption of electrical energy is charged in terms of units, a unit of water (say an acre-foot or 43,560 cubic feet) actually used and recorded by the meter, is charged at higher rates compared to those obtaining under the second system described below.—

A reliable operator can control and regulate the distribution of a constant quantity. The cultivator can be charged for the supply, in terms of "charge per hour." This is best suited for measuring water supplied to lands which are in a compact area, situated close to the source of supply. A moderate sized tank and large diesel, steam or electric pumps erected on the banks of a river or other source of supply under which crops are in need of fitful supply of water are examples in point. In respect of other irrigation sources where already the lands require supply of water for large areas and varied holdings, this system is neither feasible nor appropriate.

Module system—A module is a type of a vent or outlet through which water is discharged and the cultivator pays for the volume of water allowed to pass through this outlet, at prescribed intervals and in sufficient quantities, to mature the crop. The discharge of water through the outlet bears a relation to the area to be irrigated and is independent of the level of water surface in the channel into which the supply of water is delivered. In this system, the main difficulty is that the cultivator of lands at a distance of 2 or 3 miles from sluice, is at a disadvantage, compared to the one whose lands are situated in close proximity to the sluice, as in the former case the area irrigated is much smaller, for the same quantity of water, compared to the latter. It is, therefore, unfair to collect the same charge for the same quantity of water. In such cases, a sliding scale of charges varying inversely with the distance of the fields to be irrigated from the point at which the supply is measured, has to be devised. This presents practical difficulties, when the area to be irrigated is very large.

3. Under the meter system the cultivator pays in terms of units of water used. In a rainy season, the number of units of water utilized is comparatively less than in a dry season, although the value of the crop derived does not vary much. It is different under the module system. In a rainy season a cultivator who requires one watering for his field will have to pay the same charge, as he would in a dry season, when the crop usually requires many waterings. He has to pay a moderate and uniform rate per unit of water, placed at his disposal, through the outlet and not for the quantity of water actually used. This charge for the actual quantity of water used is secured under the meter system, though at a higher rate. The module system enables the ryot to have always an assurance of supply of water whether he can actually use it or not. He has to pay for having water at his disposal, though in a dry season, he may have to pay more than the value of the crop.

When water is regulated to be delivered along a water-course covering a distance of about a hundred miles, it is obvious that the quantity of water so placed at the disposal of landowners ought to be paid for, whether the owners of land along the water-course do actually take water or not, as their needs may vary. In such circumstances, the water once let out cannot be withdrawn or utilised elsewhere if the landowners decline to use it. For the above reason, the meter system is not suitable for large irrigation works and as described earlier, it is best suited to small irrigation sources, having compact blocks, as its ayacut, with less number of landowners. However much, the ryot may have to pay for the water, placed at his disposal, the module system with its lower unit rate of charge and the advantage of an assured supply, during a particular interval, in sufficient quantity to mature the crop, is certain to be more acceptable to the ryot than the meter system. Inspite of this advantage, under a module, the consumer can reduce the discharge or close it altogether but he will not be entitled to a reduced charge, if he does not utilise the entire supply, for which it is set. In countries like Italy, Spain and America, the module system alone is adopted for irrigation of water, on volumetric basis. It was, however, tried in the Punjab with not much success or popularity. The unit for purposes charges under the module system must always be the watercourse and each water course must be provided with its own module. A village may have to be served by one or more water courses and under a water course, there may be one or more villages. While recovering the charges, these factors would bring in great difficulties both in distributing the charges and the supply of water, between consumers of different villages. There has been also the difficulty of arriving at a scale of rates of charge per unit, acceptable to the ryot and involving no loss to the Government revenue. The foregoing facts show, that for one reason or the other, no serious attempts were made for the supply of water for irrigation on volumetric basis.

4. The Indian cultivator has been well conversant with the payment of charges for water used in a given area. He is quite new to the method of determination of the volume of water used and the charge thereof. There is a possibility of tampering with the supplies made and the internal distribution of water to the consumer. The Indian Irrigation Commission 1901-03 examined this problem at length and considered that "distribution by module should come first. Then, after a long interval, assessment by module may follow". They have added that volumetric distribution of water is an ideal to be aimed

at and recommended "that strenuous and continuous efforts be made to perfect the system of distribution by modules and other means" to be introduced "gradually, as the people learn to appreciate its advantages". Ordinarily, no ryot will take more quantity of water than what is actually required for his crop, as over-irrigation and unnecessary flooding will spoil it. The present system of charging on area irrigated, cannot be changed to one of charge by volumetric distribution, merely on the assumption, that the ryot wastes water. As stated earlier, it has been found impossible exactly to measure the quantity of water flowing into each field or channel. This system is susceptible of malpractices, on the part of petty officials, connected with the distribution of water. Its working in the Punjab, where it was tried did not result in any economy of water-a principal advantage claimed in its favour. It, however, found easy application under lift-irrigation schemes and tube wells where the area irrigated was in compact blocks, in the ownership of a few cultivators, as it is easy to deal with such consumers. The area of irrigation under such source is not also considerable. The experience of the ryots is that even under these river systems, the supply is neither assured nor adequate, during the crucial months of May, June and December, for Abi crop and in March and April for the Tabi crop. Even though modules have not been fixed, yet the quantity of water let out from each sluice or pipe is measured in terms of cusecs and the area served by each sluice or pipe is also fixed under the projects. The scope to waste water is minimised by regulating the supply through the sluice. When introducing any change, we must be certain that it is beneficial to all concerned and that it is easy to work. Though, theoretically, it is advantageous to prevent wastage of water by charging cess on volume of water used, it is clear, as observed by Shri S. Y. Krishnaswami and the Taxation Enquiry Commission, that it will not be possible to measure the quantity utilised by each ryot. At best, we can regulate the quantity supplied to a village or a big block of cultivated area. The factor of distance is the most important one to be taken into account, in deciding against this system. The division of charges among the consuming ryots, as also between the villages, in certain cases, will be a source of friction among them, which is better avoided. We cannot charge the extra, on the plea that more water than is necessary is delivered to him. Taking all these factors into consideration, we are not in favour of charging the ryot for water on the basis of the volume of water supplied, as it is not a practical proposition, in this State, at present. Even now, the Engineers, when designing sluice, do consider the area it is to command and the crops that may be grown. This may, however, continue and improve as more knowledge is gained about water requirements of crops.

Paragraph 4.—Importance of duration and adequacy of the supply of water and quality of the water.

For irrigated farming, the duration of the supply of water and its nature are of the greatest importance besides other factors that contribute to realizing a good crop. These factors govern the yield of crops in varying degrees in different areas and under different sources of irrigation. Scientific farming of irrigated crops remains a hope. Ryots under the existing method of irrigation are often prone to resort to overirrigation of wet crops under the erroneous notion that the more water they use the better value they get for the water rates they pay. They are often unaware of the ill-effects of over-irrigation. The normal rainfall in the tract has got to be supplemented by canal or well irrigation for the growth of the crops. Economy is necessary in utilizing water for irrigating crops during the dry season after the monsoons when the water level is low in the reservoirs and when it contains in solution, a high proportion of solids. Some examples of crops are quoted below in brief. For paddy crops, if the soil looks dry, especially when the plants are coming to ear, irrigation should be resorted to. Irrigation at this stage of growth results in heavy yield, unless seasonable showers make irrigation superfluous. It is enough if paddy plants have half an inch of water at the base for 72 days, i.e., if they have 36 inches of rainfall during the three months of vigorous growth from July to September. The maximum requirement of irrigation water for wheat is 750 tons of water or nearly 200,000 gallons. The variety of seed also is responsible for the increase or decrease in the yield and the quantum of irrigation required. One variety of seed may yield more, all other circumstances being the same. Correct directions to the ryots in rural areas dispelling these erroneous methods are being given under the developmental activities by the establishment of demonstration farms in National Extension Service Block Headquarters.

2. Experienced Engineers are of the view that supply of water should be assured during the full period of the crop and for the entire cultivated extent and that the extent should be confined to the available quantity of water in the source.

The existing distribution under the Krishna and Godavari deltas is considered to be adequate and equitable.

- 3. The classification adopted for irrigation sources in the Andhra region is based on the duration of supply. In Telangana the irrigation sources are classed with reference to the ayacut irrigated under each source and instead of reducing sorts for variation in the supply, the 'Pani-class' is being reduced. Not only the duration but the timeliness of the supply of water is important. Water is required in the last week of May or at least in the first week of June for raising seedbeds. In areas where it is not possible to obtain water in May seed-beds are raised with the aid of tanks which have supplies or wells in the ayacut. This difficulty of lack of supply of water for seed-beds at the appropriate time is felt even under major projects like Nizamsagar. In the case of precarious sources water received will be often inadequate even for one wetting of lands in the tail end of the ayacut at about the time of ripening of the crops. Irrigation works, especially tanks, constructed 3 or 4 centuries ago have now become very badly silted up and their storage capacity has been consequently reduced. There is much pressure on land on account of the increase in population and there is undue expansion of ayacuts especially under tanks without any reference to the capacity of the sources. In the case of many tanks in the erstwhile estate and jagir areas there are no details or hydraulic particulars. These standards will have to be fixed afresh with technical assistance. The sill-levels of sluices and the crest levels of surplus weirs of several sources require alterations or remodelling.
- 4. The duration of supply can be certainly increased if the ayacut is reduced to the proper extent and water is used economically and scientifically. In many cases while deciding about the adequacy of the period a good margin has to be allowed. For example if a crop takes six months to ripen we will have to allow a margin of at least two months more, because when tanks are fed by rain, however good the catchment may be, there is always some uncertainty about the actual time of filling up of the tank. The questions that arise out of the foregoing and requiring examination are, whether the loss of crops which a ryot sustains due to inadequate irrigation at the critical stage should be compensated by grant of remission, whether assessments on the lands of the ayacuts of such sources has to be reduced and whether a reduction in the registered ayacuts would afford adequate relief. We consider

that there is an urgent need to stop further indiscriminate expansion of ayacuts, specially under rainfed tanks, unless a detailed investigation of the hydraulic particulars justifies such an expansion or until special improvements to increase the capacity of the tanks are effected. At present extension of irrigation is going on without check. If penalty is not levied for five years in succession the ryot may acquire a right to irrigate the land. In future extensions of avacut should be stopped and adequate penalties imposed if extension is objectionable. But if there is surplus water in any particular year temporary permission may be given. Such temporary permission should not confer any right of water in future years. The yield of most of the paddy lands depends upon the time of the year at which the cultivation is commenced. The ryots who are able to commence transplantation early enough usually get a much better yield than a ryot who transplants his land late because the crop transplanted early will be able to offer greater resistance to the pests, etc., and has also got a longer period for growth. Most of the crops are season-bound as the time of maturity is almost fixed. Therefore if a crop is planted late, the period of growth will be much less than that of a crop planted early. We are, therefore, of the unanimous opinion that greatest importance should be attached to the time of commencement of the supply of water for irrigation.

5. Quality of the water used for irrigation plays an important role in enabling a ryot to grow successful wet crops and secure good harvests. Studies in the analysis of water for irrigation show that "of all natural waters, rain water is the purest and also the safest for irrigation. Water of a river flowing through a granite country is also very pure containing only a small proportion of solids in solution while other rivers flowing through regions of soluble rocks contain a larger proportion. Spring or well water contains a still larger proportion of solids in solution and, therefore, is less helpful. Sea water contains the highest percentage of salts in solution and is thus definitely unfit for irrigation." Spring or well water or water from low and dirty pools which may look clearer than river water is injurious to plant growth as it contains a higher percentage of solids. Plants can derive nourishment from solids only in a very dilute solution and the best proportion for such nourishment is one part of solid food in 1,000 parts of water. Certain salts even though present in higher proportion do not harm the plants. Thus it can be gathered in general that salts in solution over a certain limit are injurious to crops. The nature of water varies to some extent with the

design of the source. Irrigation from storage tanks will result in accumulation of salts in higher proportion. Such sources must be made as deep as possible or evaporation prevented to avoid injury to crops on account of the presence of salts in solution in greater quantities.

- 6. Sri Nitya Gopal Mukerjee has observed "that nearly every soil contains all the essential constituents for the growth of vegetation and that the virgin richness of the soil has disappeared where the soil has been in cultivation for many years except where it is irrigated by canals". Canal water bring such rich deposits of silt to the soil and they serve the dual purpose of irrigation as well as fertilization. The manurial value of the silt itself is found to be between Rs. 4 and Rs. 5 per acre per annum under the Damodar Valley Project. The ryots find it profitable to take canal water in May and June when water is rich in silt and its component organic matter.
- 7. Sri L. Venkatakrishna Iyer, the Special Chief Engineer (Irrigation), Hyderabad, has observed that water is required as a vehicle to convey nutrients to the plant and that there is not much difference between river water and water from a reservoir. The opinion of Sri C. Seshavataram, retired Chief Engineer, is that though river silt confers considerable benefit to crops resulting in better yields classification for assessment on this basis will be cumbrous and highly technical. The proportion of dissolved salts in silt water and ordinary water and the relative effects on the yield of crops on different types of soil are varying and indefinite factors and not easily determinable. He is not in favour of such factors being considered in levying water rate or fixing wet assessment on land. According to Sri G A. Narasimha Rao, the Chief Engineer, Public Works Department, Nagarjunasagar Canals "no relative importance need be given for various types of water occurring in nature".
- 8. In rivers during freshes, the water will be rich with silt and benefits the crop much while in second crop season the silt is decanted down and the water will be free from silt. When new dams or reservoirs are constructed some silt may be arrested by such dams depriving the lands under such dams of the silted waters. With the construction of a large number of reservoirs across big rivers the importance of silt as a factor will be minimized as the majority of the wet areas will come under the projects. The fields nearer the sluices will be bene-

fitted by water comparatively rich in silt while those at the tailend will not have similar benefits. In Telangana the quality of water is taken into account while classifying the sources. Where the water is saline and hence less useful for irrigation the water class is reduced by one anna. Where the water flows on karal (saline or alkaline) land and brings in lime-stone particles the water value is further reduced by down-grading the class of source by another half anna. Some ryots under the Kurnool-Cuddapah Canal and Koilsagar represented about the bad effects of "white silt" under the former and "saline soil" of the bed of the latter. There cannot, however, be any doubt that good silt from the big rivers has beneficial effect upon the crops, though the yield depends upon a number of other factors like the soil, the quantity of water, the seed, the manure, the technique of cultivation, the weather and pests. Analysis of soils and water have not been taken up on any extensive scale. By experience ryots know that waters from certain sources laden with lime or salt are injurious to crops. Some sort of concession has been given in Telangana for this factor of quality of water by reducing the pani class. The exact quantum of the benefit derived cannot be estimated with any degree of accuracy. It is not, therefore, practicable to attach any special importance to water laden with silt. We consider, therefore, that it is not possible to make any distinction between the water received directly from the river or anicut and water from a reservoir as it will be difficult to assess the quantum and the quality of silt carried and the exact amount of benefit it confers on the crop.

Paragraph 5.—Levy of different charges for the land situated near or farther away from the sluice.

For a consideration of the question of making a distinction in the levy of water rate on lands situated near or farther away from the sluice, it is necessary to recapitulate the principles of fixing the classification of soils and sorts during settlement operations. In the early stages of settlement operations in the Andhra region, soils were classified according to their general characteristics and principal ingredients and divided into classes and sorts in order to remove inequities in the levy of assessment. Each class of soil has been divided into 'sorts', which are chiefly determined by the quantity of organic matter and nearness of the land to the village site and the sluices of the irrigation sources, the facility of manuring, irrigating and guarding the crop. To begin with there were

only two sorts good and bad, in each class. But subsequently the number of sorts was raised to three and still later to five, i.e., best, good ordinary, inferior and worst which are now in force. Thus the proximity of land to irrigation sources was one of the factors considered while fixing wet assessment in the Andhra region.

- 2. Separate water rates are charged on dry lands irrigated under projects newly constructed. Two kinds of water rates have been in force. They are (1) differential water rate system, (2) fixed water rate system. The principle in respect of the differential water rate system is that when a dry land is irrigated from a Government source, the charge corresponds to the difference between the wet rate and the dry rate of assessment of the corresponding land. This secures for the cultivator a charge commensurate with the yield from the land. It is in force in limited areas where proper soil classification has been made. The second method is that water rates have been fixed for sources which have been grouped according to the duration of their supply and capacity. It has been considered that the fixed water rates would press heavily on poorer lands and lands at the tail-end of irrigation sources especially in deltas. This is urged as an argument in favour of differential water rate system. The intrinsic disadvantage, if any, in the supply of water on account of the distance of the land from the sluice was considered at the time of the original settlement while assigning the sort. As we are not altering the sort, no interference is now called for to adjust the rates in the case of the two categories of lands. The defect in the case of lands farther away from the sluice would have been covered when the corresponding dry assessment of the wet land is determined. In Telangana there is no provision for reducing the rates of assessment or reducing the class of sources for lands situated at a distance.
- 3. A majority of Chief Engineers are of opinion that different rates need not be charged for lands near the sluice and those farther away from it. Suitable water regulation can always ensure good supply to the tail-end lands also. According to Engineers any large variation is undesirable as priority rights will be created by charging more for land near the sluice and if the owners of such land try to establish their rights for priority, it will be difficult to get rid of them at a later date.

- 4. A little inconvenience and necessary adjustments in the matter of equitable distribution of water are inevitable and it is not possible to give a separate independent source for each ryot even under ideal conditions. The water rate generally charged is only a fraction of what is charged in other places like Bombay and in view of such a good margin it will not be necessary to make minute distinction in fixing the rates.
- 5. We are, therefore, of opinion that proximity of the land to the source and sluice need not be taken into consideration in assessing water charge and that the same rates should be adopted for all lands.

Paragraph 6.—Principles of levy of water charge on land newly brought under cultivation.

The utilization of waste land "is a complex problem" and its optimum use for cultivation by irrigation depends on various conditions and factors, like water, drainage, soil-texture, alkalinity, location, etc. Several types of lands occur in the localized areas of irrigation projects. They fall mainly under the following categories:—

- (1) Barren soils.
- (2) Saline and water-logged lands.
- (3) Ill-drained lands.
- (4) Lands "under tanks which are restored".
- (5) Undulating lands.
- (6) Lands liable to submersion.
- (7) Tidal-affected areas.

Special steps have to be taken to bring these under wet cultivation and much labour and money will be required besides technical assistance. The average ryot will not have the wherewithal to spend for reclamation of such lands and get a fair return for the money invested. It will also take time for the people to appreciate the advantages of irrigation and learn the methods of reclamation and cultivation of land with irrigated crops. It is, therefore, considered that full water cess cannot be charged till the ryot derives a fair increase in the value of the crop, due to irrigation.

- 2. The period taken and the cost incurred for reclamation of the land are the main factors to be taken into account for determining as to when and how the full water cess on such lands can be charged. The Marjoribanks Committee recommended that the collection of water rates might be kept in abeyance for 5 years. Conditions vary a lot from tract to tract, village to village and even from field to field. Sri N. Raghavendra Rao, and the Land Revenue Reforms Committee, Madras, therefore, considered that a hard and fast rule for granting remission for a period of five years would not be suitable and discretion might be given to Collectors to waive the wet assessment according to the merits of each case. The Taxation Enquiry Commission recommended that concessional or incentive rates would be necessary in the initial stages of development and that concession should be given only in respect of water rate and not the dry assessment. It further suggested a periodical review of the reclamation activities as a result of the concessions granted and to levy the full rate as soon as benefits begin to accrue to the cultivators.
- 3. A sliding scale of concessional rates is sanctioned for cultivation of lands under the low level canal of the Tungabhadra Project.

First year, one-fifth of the rate. Second year, two-fifths of the rate. Third year, three-fifths of the rate. Fourth year, four-fifths of the rate. Fifth year, full rate.

In Telangana under the new irrigation works the procedure is—

No charge in the first year.
One-fourth charge in the second year.
Half charge in the third year.
Three-fourths charge in the fourth year.
Full charge in the fifth year.

4. The Chief Engineer (Special) Irrigation, Hyderabad has suggested that a graduated scale spread over a period not exceeding ten years might be adopted. The Chief Engineer, Public Works Department, Nagarjunasagar Canals, considered that a period of three years would be sufficient, while Sri C. Seshavataram, a retired Chief Engineer opined that each case had to be studied and judged separately. The periods of concessions suggested in answers to the questionnaire range

from 3 to 20 years. Persons with considerable experience in such matters have suggested that concessions may be given for a period of five years.

5. Special incentives should be given to those farmers who are prepared to reclaim new lands for cultivation. As stated earlier, conditions vary from field to field. The biggest item of expenditure in converting a land to wet is levelling. One field may be flat and need only a small sum for wet cultivation while another which yields excellent dry crops may be undulating or sloping and may require a heavy sum. Such extensive levelling exposes in many places, the sub-soil and it takes years before a state of equilibrium in soil conditions is established. In some places the soil is hard and full of pebbles. Again this also takes a number of years to consolidate to a suitable texture. In some fields small plots of 25 to 30 cents fit for cultivation can be formed only at a heavy cost. Ryots who derive good crops from their dry-rainfed lands are, therefore, averse to get their lands, commanded by the projects, under irrigation. By and large, we can assume that irrigated lands are more valuable than dry lands as the income from an irrigated land is several times that from a dry land. The only difficulty is the finance necessary to effect the conversion. Besides Land Improvement Loans, to meet the expenditure, it is necessary to give some inducement or incentive which quicken the pace of reclamation. Another important point is that the concession must be given from the year, the water reaches the field head. It is imperative that we make the rvot take water and not leave the option to him. Black soils give good yield when cultivated with dry crops and this is one of the reasons why the owners of black soils do not readily take to irrigation. Taking all the aspects into account, we recommend that water rates should be levied on the following scales on lands requiring extensive reclamation for raising irrigated crops:-

•		Red soils.		Black soils.
First year	•••	•••	Nil	Nil
Second year	•••	•••	₫t h	NiI
Third year	• • •	•••	$\frac{1}{2}$	Nil
Fourth year	•••	•••	<u>3</u>	<u>1</u>
Fifth year	•••	•••	Full	$\frac{1}{2}$
Sixth year	•••	•••		Full

These concessions should take effect from the time when the water is made available to the ryot at his field and not from the year when the dam is completed and water is let into the main canals. With this modification we recommend the proposals submitted by the Board of Revenue to the Government for the integration of the Laws relating to the levy of compulsory water cess in force in the two regions of the State.

Paragraph 7.—Drainage facilities.

The "Cardinal principle of irrigation is to get water into the land and not on to the land" as observed by the Marquis of Tweeddale, when he was the Governor of Madras. Drainage and irrigation help the ryot in removing the excessive efflorescent salts from the soil. Lands containing sodium salts can be eliminated by drainage, thus making, barren lands fertile. Water-logging would prevent the roots of the plant from taking in air, and it is injurious at and immediately after the period of germination and also at the periods of flowering and ripening. Efficient drainage is a necessity for any large scale project works. Drainage and irrigation channels should be provided simultaneously wherever drainage problems can be foreseen. Proper drainage is as essential for a land irrigated as ventilation is for a house. It is necessary to take this fact into account when an irrigation work is designed than to think of it after it is completed. Water-logging is a very grave danger following irrigation, if suitable arrangements are not made for drainage even from the inception of a project. The intensity of the problem is felt only after some years following the completion of the project, since it takes time for the soils to get saturated with water. In fairness to engineers, it must be stated that it is not possible when projects are executed with speed, to take into account all the minute details and provide safeguards against all the bottle-necks including drainage. The problem will be very acute, as in the Punjab, if sub-soil water level is very high. If the problem of drainage is neglected its adverse effects will be cumulative and widespread resulting in a total failure of the crop besides creating public health problems.

2. In a country like India, there should be optimum irrigation and not over-irrigation. The problem of drainage is acute in portions of Godavari and Krishna deltas near the coast and to a certain extent in Nizamsagar area. The old drains which existed prior to the Godavari Anicut System continue to function without any improvement in their discharging capa-

city even though they have to carry four to five times the water which they were draining before the advent of the projects. These drains do not function properly as their courses are serpentine and narrow. The courses of such drains have to be straightened, widened or deepened, according to the needs. Krishna and West Godavari districts, for example, a large area under Kollair lake, which is a natural depression receives all the rain water and drainage from fields and in some parts of the year covers a huge area submerging large extents of paddy fields surrounding it. The Upputeru is not adequate to drain off quickly all the accumulated water in the lake into the sea. There are a number of other drains like the Yerrakalva, Thammileru and Budameru. In all these ill-drained areas the outturn of paddy is only half the normal. In delta tracts there is also the accumulation of water in the sub-soil. The capacity of the drains is limited by the narrowest portions in their course. Works taken up under Flood Control Measures will have a general beneficial effect on lands under the irrigation projects, since they would relieve the natural drainage of some portion of the burden. The chief remedy is to improve the drainage system though it may be expensive. The loss of crops brought about on account of this defect in a period of ten years will be much more than the cost of the drainage works.

3. A detailed note on the existing drainage difficulties and the remedial measures taken for improving them received from Sri L. Venkatakrishna Iyer, Special Chief Engineer, Hyderabad, is appended as it is exhaustive and informative. (Vide Appendix 4).

During settlements, lands affected by drains are assigned a classification of two sorts lower than lands which are not so affected. In cases of failure of crops on account of submersion, remissions are also given. But these do not afford adequate relief to the ryots or to such tract as a whole. The loss of crop has to be prevented. The ayacuts in the deltas of Godavari and Krishna have been extended very considerably but additional drainage facilities have not been provided. As can be seen from the note of Sri L. Venkatakrishna Iyer there are a number of works to be taken up costing a few crores. observed earlier there is always diminution in yield in such areas but the degree by which the yield is affected varies from place to place and depends also upon the level of the sub-soil water. There are places where drainage problems have completely upset the agricultural economy. We feel that provision of adequate drainage facilities is just as important as the problem of providing irrigation and should be tackled by the Government with equal zeal. About two lakhs of acres in the Krishna and Godavari deltas suffer from submersion and inadequate drainage. Provision of adequate drainage facilities certainly improves the land, increases productivity and raises the value of the land. The ryot will have thus three-fold benefits, accruing to him. These works may be taken as Land Improvement Works and cost partly recovered from the beneficiaries. The Government need pay only a portion of the cost. There are always indirect revenues flowing from increased production and these would justify the State's contribution in part.

Paragraph 8.—Irrigation from private tanks and petty sources.

Tanks and petty sources provide a considerable degree of protection against famine. It will therefore be expedient to encourage the construction of tanks and kuntas by private enterprise. Collectors are competent to grant permission to construct small private tanks or kuntas, in consultation with the Public Works Department wherever necessary. ditions for the grant of permission to construct private tanks and kuntas in Andhra region are laid down in the Board's Standing Orders No. 7 (2) (I to V). No water rate is levied for the collection, retention and use of surface water in a patta land provided such water does not flow in a defined channel, and does not interfere with similar rights of other ryots. When any individual wishes to draw water for irrigation from a Government source other than natural pools or minor streams by a new private work, a reduced rate of assessment or water cess may be levied under Board's Standing Order No. 7(2) (IV) (b) with the concurrence of the Board of Revenue to encourage such private enterprise. The practice obtaining in this regard is different in Telangana. There were two systems governing the procedure of granting permission to construct private kuntas, namely Dastband and Mirasi. these systems ceased to be in operation for a long time. 1950 "the construction of tanks and kuntas in patta lands rules" were framed authorizing Collectors to grant permission for the construction of kuntas in consultation with the Divisional Engineer in case the ayacut is ten acres and less and with the Superintending Engineer if the ayacut is over ten acres and less than 50 acres. Sources having an ayacut of 50 acres and more will be under the control of the Public Works Department. From the parties, maximum dry assessment of the village will be collected for irrigation from such kuntas. Unauthorized private kuntas will be demolished.

- 2. We feel that liberalization of the procedure for obtaining permission for the construction of private kuntas will tend to increase food production. In Telangana there are a number of small bunds in patta lands intercepting merely the surface-flow for providing irrigation for dry or wet lands or supplementing the irrigation of such lands with the aid of wells. Such bunding will not only facilitate irrigation but also augment the supplies to the adjoining wells. Such bunds will not only prevent soil-erosion but also help soil conservation. We, accordingly recommend that construction of such kuntas be permitted subject to the following conditions:—
- (a) Prior permission of the Collector is necessary for construction of a private tank.
 - (b) The water must be for the grantees' own use.
- (c) Submerged area and ayacut must belong to the same person.
 - (d) The irrigated extent should not exceed 15 acres.
- (e) Collectors should examine the question whether the interests of others are materially affected before granting permission.
- (f) Bunds put up to intercept merely surface flow for providing irrigation for lands below should not be charged if the area irrigated is below three acres and no permission should be necessary for putting up a bund. The quantity of water that will be intercepted by such bunds will not be much and in all probability would be lost by evaporation and percolation, if it is not intercepted.
- (g) Dry assessment should be levied for the area occupied by the bund and the submerged area.
- (h) Only dry assessment should be charged on the area irrigated in each of the above cases.

These recommendations would not apply to the cases of permission already granted. But the concessions regarding assessment will apply unless payment of assessment is one of the conditions under which permission was granted.

Paragraph 9.—Do lands irrigated under wells in the ayacut require any concession?

Wells in non-perennial zones of irrigation projects and reservoirs are valuable assets both to the Government and to the ryots in times of drought as they help the raising of irrigated food crops on a large number of small holdings consisting of five acres and less. These wells not only help the raising of paddy nurseries earlier, but help the ryot to raise also green manure crops. Some of these wells are also in the ayacuts of Government sources. Large areas are irrigated under wells in the districts of Chittoor, Cuddapah and Nellore of Andhra region, the extents being respectively 1,00,608, 76,415 and 70,974 acres. In Telangana the area irrigated under wells is the largest in Nalgonda district being 56,607 acres.

- 2. In the Andhra region, the Board's Standing Order No. 6, paragraphs 1 to 7 provide for the construction of private wells and the collection of assessment on wet lands when irrigated from such private wells. They are in brief as follows:—
- (a) Tax on land cultivated by wells constructed by ryots at their own cost will not be enhanced except on a general revision of the district rates and any modification in the assessment of land so improved will be effected irrespective of increased value conferred upon them by such wells.
- (b) No notice need be given to the Collector about the sinking of wells and all that is necessary is that they should be sunk in land which belongs to the person sinking the well.
- (c) No water rate is levied when dry lands are irrigated from private wells, situated on land which is the private property or constructed prior to 20th August, 1884 in Government lands whatever the distance of the wells might be from a public irrigation source.
- (d) In cases where private wells exist in wet lands the ryots are allowed to pay compounded rates determined by the Collector for getting the wet lands registered as compounded double crop lands. If wet lands are irrigated from private wells the nature of assessment charged is noted below:—

First Crop		Second Crop	Assessment payable
	1	2	3
Single crop land .	. Sufficient supply received	Sufficient supply not received	Single wet assessment
	Sufficient supply not received	Sufficient supply received	do
	đo	Sufficient supply not received	Single dry rate
Ordinary double crop land	Sufficient supply not received	Sufficient supply not received	Single dry rate
	Sufficient supply received Sufficient supply not received	do Sufficient supply received	Single crop wet assessment, if such is separately assessed, if not, two-thirds of the total double crop wet assessment.
Compounded double crop land	Sufficient supply not received	Sufficient supply received	The full compounded rate
	Sufficient supply received	Sufficient supply not received	do
	Sufficient supply not received	do	Single dry rate

- (e) In bad seasons, the remission of the difference between wet and dry assessments is granted on merits if the crop is raised mainly, if not, solely by watering from a private well. The guiding consideration for granting the remissions in such cases is that the water available in the Government source is wholly insufficient to bring the crop to maturity and the water is not taken, to the prejudice of crops on other wet lands which have not the advantage of protection of private wells.
- 3. In Telangana the construction of private wells and collection of assessment on lands are governed by rules 35, 37, 65 and 67 of the rules under the Hyderabad Land Revenue Act. They are given below:—

- 35. If a ryot sinks new wells in dry land in his occupancy situated outside the avacut of Government patasthal sources, or repairs dilapidated or dried up wells with his own capital and does wet or baghat cultivation therefrom or plans, trees, etc., he shall be entitled to the full benefit improvements and no additional assessments such except the dry assessment fixed during the settlement shall be levied on such land. If such land comes within the ayacut of a Government source, in future, due to the construction or extension of or repairs to a source of irrigation, the ryots of such land shall not be compelled to irrigate their land from such source. They shall be free to take water from such source If Government water is taken, patasthal wet assessment shall be levied as before. It shall not be necessary to obtain any permission for sinking wells or repairing existing wells. The Village Officers shall maintain a record of all such wells giving details of land irrigated thereunder and send ar annual statement to the Taluk Office where entries shall be made in the concerned Taluk Register.
- 37. (1) Ryots shall be free to sink wells in their lands situated within the ayacut of Government patasthal sources. If water from the Government patasthal source is not available and cultivation is done from such wells, only dry assessment shall be levied in the manner specified below:—
- (a) In single crop patasthal wet land, if the first crop is cultivated with water taken from Government source and the second crop is cultivated with water taken from the well, only dry assessment shall be fixed for the second crop but the dry assessment so fixed shall be levied every year irrespective of whether the land is cultivated or not.
- (b) If water is not available from Government source even for the first crop and such land is cultivated with water taken from the well dry assessment shall be levied for such crop also, but it shall not be compulsory to cultivate such crop under the well.
- (c) In double crop patasthal wet land, if patasthal water is not available for a crop and cultivation is done with water taken from a well, no additional assessment except dry assessment shall be charged for such a crop.
- (2) If on account of repairs to or extension of a Government source, such land can be irrigated from such source

for both the crops, the ryot shall be bound to take Government water for both the crops.

- (3) This rule shall apply also to Quali wells constructed by ryots in accordance with quals granted under Government Resolution No. 38 of 1303 Fasli.
- 65. Where owing to non-availability of water from the appropriate patasthal source, wet cultivation is done with the help of well whether new, old, auxiliary, quali or inami or whether situated within the ayacut or outside, dry assessment shall be levied and the remaining wet assessment shall be remitted under 'Kammi eksala':

Provided that if such a well is a Government well, having no separate land assigned thereto, half the patasthal assessment shall be levied and the remaining half shall be remitted under 'Kammi eksala':

Provided further that if such well is situated in the ayacut, the highest dry rate of the village shall be levied.

Proviso to rule 66 lays down that all lands under wells situated in the ayacut shall be treated as under patasthal source.

- 67. (1) In the event of partial failure of water from the patasthal source, no remission shall be granted if the source has irrigated a crop for not less than half the period before the source dried up and the crops are saved with the help of any auxiliary or quali or inami well. But half the assessment shall be remitted if the patasthal source has irrigated the crop for less than half the period.
- (2) If a patasthal source is breached and the ryots save the crops with their labour and expense, remission up to half the assessment may be granted taking into consideration the expenditure incurred on such saving irrespective of whether or not the water from Government source was taken for more than half the period.
- 4. These provisions are in the main similar in both regions but they differ in details. The variations are examined below:—

Under Board's Standing Order No. 6 (5) provision has been made to charge single wet assessment for wet land if there is sufficient supply in the Government source for first crop and sufficient supply is not received for second crop. According to our proposals there will be no consolidated wet land. In a case of this sort, dry assessment is charged in Telangana under rule 37 (1) (a) of the Hyderabad Land Revenue Rules. These provisions will be inapplicable in the new set-up envisaged by us. For these cases, dry assessment plus appropriate water rate should be charged.

Provision is made in the same Board's Standing Order No. 6 (5) for levy of water charges for ordinary double crop lands and compounded double crop lands when irrigated by private wells and under the corresponding Hyderabad Rules 37 (1) (b), 37 (1) (c) and 37 (2). In these cases also the appropriate dry rate plus water rate alone need be charged according to the table of water rates recommended by us. When there is no supply in the Government source and the land is irrigated by private well althrough, the dry assessment alone is collected. According to rule 65 of the Hyderabad Land Revenue Rules, if the well is situated in the ayacut of the patasthal source, the highest dry rate of the village is charged. We are of the view that no distinction need be made between the wells in the ayacut and those outside it. Such a distinction is not made in Andhra. It will be reasonable if the appropriate dry assessment alone and not water rate is collected for such irrigation. If the water used is from a Government well half the patasthal assessment is levied in Telangana. In Andhra region, water rate is charged for cultivation of land by a poramboke well after duly deducting baling remission at one-fourth water rate if the well has been constructed after 20th August 1884. The Government of Andhra in their Order Ms. No. 2720, dated 17th December 1955, have ordered that wells situated in estate areas taken over under the Abolition Act which are amidst patta lands but which are classified as poramboke wells be treated as private wells and that pattas be granted to the ryots concerned. Such wells constructed after 20th August 1884 also exist in porambokes in ryotwari villages and water rate is charged for irrigation from them. The cost of these wells cannot be ascertained now with any amount of accuracy and the extent irrigated also cannot be much. In several cases they are not regularly maintained at Government cost. Often the irrigation under such wells is supplemented from the main Government irrigation sources if they happen to be in the ayacuts of such Government irrigation sources. The concession of treating such wells as private wells in erstwhile Zamindari villages will have to be extended to the wells in the ryotwari villages and any distinction made in their treatment will be unjust. We, therefore, considered that no separate class need be assigned to these wells in the table of water rates recommended by us. We accordingly recommend that no charge poramboke lands and constructed even after 20th August 1884. need be made for irrigation under these wells situated in

- 5. In Telangana according to rule 37 (1) (a) all lands under wells in the ayacut of a Government irrigation source are treated as under patasthal source and dry assessment is charged for the second crop whether it is cultivated or not. This, in our view, is not equitable and all such wells should be treated as private wells just as it is done in the case of wells outside the ayacut and all concessions applicable to the latter should be extended to these wells also. No dry assessment need be levied in such cases.
- 6. The guiding consideration for granting the remissions for wet lands irrigated by private wells in Andhra region is that the water available in the Government source is wholly insufficient to bring the crop to maturity and the water is not taken to the prejudice of crops on other wet lands which have not the advantage of protection of private wells. A parallel provision to this in Telangana is contained in Rules 67 (1 and 2) of the rules under the Hyderabad Land Revenue Act. The provision in the Board's Standing Order No. 6 for Andhra is rather vague and will be leaving the matter entirely to the discretion of the local officers. Rules 67 (1) and (2) of the Hyderabad Land Revenue Rules lay down that no remission shall be granted if the source has irrigated a crop for not less than half the period before the same dried out, and the crop is saved by the help of a well. But half the assessment shall be remitted if the patasthal source has irrigated the crop for less than half the period. Similarly if a patasthal source is breached and the ryots save the crop with their labour and expense, remission up to half the assessment may be granted taking into consideration the expenditure incurred on such saving irrespective of whether or not the water from the Government source was taken for more than half the period. These rules provide a definite method for determining the quantum of remission unlike in Andhra rules. We recommend that these provisions in the Telangana Rule 67 should be adopted in the entire State.

Paragraph 10.—Lands irrigated directly by percolation and also from wells receiving supply by percolation.

In the Andhra region according to Board's Standing Order 6 (3) the Government have abolished all restrictions on the sinking of wells in the proximity of Government irrigation works provided only that they are sunk in the land which belongs to the person sinking the well. According to Board's Standing Order 6 (4) no water cess will be charged on dry lands irrigated solely from private wells situated on land which is private property, or constructed prior to 20th August 1884, within whatever distance the wells may be from a public irrigation source.

2. Note 1 under Board's Standing Order 4 (2) reads as follows.—

"Where a wet crop is grown so close to a Government source as to raise a reasonable presumption that it obtains water by percolation, a charge under Act VII of 1865, as amended by Act V of 1900 shall be made for such water unless it is shown that the supply from the Government source has not been beneficial to or sufficient for the requirements of the crop". Note 2 of Board's Standing Order 4 (2) reads as follows: "No water cess shall be leviable on crops classed as dry and irrigated by percolation unless owing to drought or other special circumstances, it is manifest that without such irrigation the land must have remained waste or the crop must have perished. In case of doubt whether the crop could have been successfully raised without such irrigation, no charge should be made."

- 3. In the Telangana region, when a land is irrigated by percolation from a Government source, wet rate is levied treating that the irrigation was done by the Government irrigation source.
- 4. Sri C. Seshavatharam, Chief Engineer, Public Works Department (retired), Hyderabad opines that irrigation by percolation (and under wells) should not be permitted within a reasonable distance of canals and that water rate may be levied at half to three-fourth of the full rate if such irrigation exists or permitted. The idea is that extension of irrigation close to canals should be prevented in the interests of the registered ayacut under the canal.

- Sri L. Venkatakrishna Iyer, Special Chief Engineer, (Irrigation) Hyderabad has observed that such irrigation should not be permitted as it is dangerous to the bund and that full water charge should be levied.
- Sri A. R. Venkataraman, Chief Engineer (Irrigation) Hyderabad is definitely against permitting any such irrigation.
- 5. According to section I of the Madras Irrigation Cess Act, 1865, the Government can levy water-rate if the crop is benefitted by percolation from a Government source of irrigation and a successful wet crop is raised. It is, therefore, necessary to retain the enabling provision in the Irrigation Cess Act to levy water charge for benefits due to percolation. Irrigation of dry crops by percolation need not be charged as it is difficult to estimate the benefits and effects of percolation.
- 6. We are of opinion that if a wet crop is raised successfully by percolation and without a well, there should be a charge for water as though the irrigation is from a regular source and that irrigation of dry crops by percolation should not be charged. If a dry land is irrigated by a well situated in private land which receives supply by percolation such irrigation should not be charged as it is very difficult to estimate the quantum of percolation from the canal or tank and from the natural springs. No well should be allowed to be excavated within the boundry of the canal or tank bund and where this is not demarcated within 25 feet of the outer toe of such bund.

Paragraph 11.—How should lands irrigated from river channels, river (springs) channels and Kasams (spring-wells) be assessed?

River and spring channels are water courses dug for conveying water from a stream for irrigating fields. A big depression is made in a stream or river bed and water is conveyed to the fields, by digging a channel for a distance of about a mile or two thus diverting it to lands for irrigation.

- 2. Kasams, Sonas and Bilas found mostly in Chittoor, Guntur and Srikakulam districts are subartesian springs from which water flows in the channel to irrigate the ayacut. These spring heads have no connection to a river but are usually at the foot of hillocks.
- 3. In rule 71 of the Hyderabad Land Revenue Rules, 1951 a 'Parre Kalva' is described as an artificial channel dug by the

ryots of the village by personal labour to carry sub-soil water from the beds of streams to irrigate their fields. The Government of Andhra Pradesh in their order No. 895, Revenue, dated 19th May 1958 modified the definition of "Parre Kalva" as follows.—

"Parre-kalva" is a kalva wherein ryots have to take out sand at their cost and labour to obtain water percolating from below the surface, of sand in quantity sufficient to flow and irrigate lands." This definition was further clarified by the Government in the same order as follows.—

"It is incumbent that water used for irrigation should be of percolation from below the surface of sand and private cost and labour should be applied to take out and clear the sand from the kalva. Therefore if any water flowing on the surface of the sand is utilised by the kalva for irrigation, such kalva should not be called Parre-kalva". In Andhra region the ryots by co-operating with each other voluntarily dig channels from the river beds for irrigating their fields. Every ryot offers free labour annually for the clearance of silt and berm-cutting. The silt is removed and deposited on the inner slopes. Owing to the heavy drift of sand, the banks of the channels go up higher and higher and the inner slopes become steeper so that the first shower of rain drives down the silt already removed, again into the channel. Side berms at convenient height are indispensable to remedy the defect and this work was reckoned as one of the items to be done by Kudimaramat labour. Again during freshes the sandy portion of the channel dug in the river, will get obliterated and the entire excavation has to be redone by the ryots. The ryots have to contribute enormous manual labour constantly for the removal of silt and the maintenance of the channels in order to take water to the tail-end fields for successful irrigation. The Wet Rate Committee observed that for irrigation under Parrekalvas in Telangana tremendous labour on the part of rvots is nec∈ssary

4. Spring and river channels are found in almost all the districts in Andhra area. Their number is large in Anantapur, Kurnool, Chittoor and Cuddapah districts. A number of Parrekalvas exist in Warangal and Karimnagar districts. The extents irrigated also are large. In 1916 it was found that the ryots neglected Kudimaramat work in respect of the channels in Andhra. In many cases there was extreme and long continued neglect and by 1941 it became necessary to take up

the repair works at Government cost, to overcome the food shortage. G.O. No. 252, Revenue, dated 3rd February 1941 of the Composite Madras State provided for silt clearance and berm cutting at Government cost in spring, river and supply channels. Collectors were given discretion to waive contribution for Kudimaramat works in exceptional cases. The scheme is being extended year after year and several works were executed in Kurnool, Cuddapah, Chittoor and Anantapur districts under the provisions of the scheme.

5. The Committee received representations that even in case of these channels heavy water rates are levied inspite of the huge manual labour, involved in digging them from getting water to their fields. The cost of the manual labour contributed ranges from Rs. 50 to Rs. 100 per acre per annum. In Anantapur district there was keen agitation for exempting the cultivation under spring or river channels from the collection of wet assessment and water cess. The contention of the ayacutdars is that they have to work day and night to get the water. The Government granted concession in G.O. Ms. No. 1135, Revenue, dated 29th April 1949 in respect of irrigation under river and spring channels in Anantapur district. The rates charged under this Government Order are.—

Wet lands.

- (a) First crop—one-fourth baling remission is allowed, i.e., three-fourth of the existing rate is charged.
 - (b) II and III crops—No charge.

Dry lands.

- (a) I crop—A consolidated charge of Re. 1 per acre including water cess or the dry assessment whichever is more to be levied.
 - (b) II and III crops—No charge.

These rates are not subject to enhancements of 25 per cent, 37 and half per cent, or 50 per cent under the Andhra Land Revenue (Additional Wet Assessment) Act. The question of extending these concessions to channels in other districts also was examined by the Government in the year 1956. They considered that it was inopportune either to exempt such lands from the levy of water cess or to extend the concession to other districts. They have, however, decided to exempt irrigation under spring channels from the general enhancement

of water cess by 25 per cent which was proposed to be given effect to and directed that the existing rates of water cess under river and spring channels should only be continued. (Vide G.O. Ms. No. 22, Revenue, dated 19th January 1956). As regards the charges for irrigation under Parre-kalvas in Telangana dry assessment plus one third of the difference between maximum wet and dry rates of assessment of the village subject to a maximum of Rs. 5 is charged.

- 6. The concessions allowed to ryots under the River Spring channels in Anantapur district are mostly beneficial to the ryots who pay water rates on dry lands and not to the ryots owning wet lands as only one-fourth baling remission is allowed for the latter. It is a well known fact that ryots under river and spring channels, Kasams and Parre-kalvas have to put in enormous work to get supply of water to their fields. The cost of labour for maintaining the channel per acre of irrigated land may be at least 7 or 8 times the wet assessment they pay. The ryots who enjoy an assured water supply under a very big tank or an irrigation project spend practically nothing to get the water to their field. But the Government will have to make a gesture of sympathy in an adequate measure. During floods water can be taken by open mouth channels. A low water channel cannot be taken straightaway like an open mouth channel. In both the cases considerable manual work is necessary. Open mouth channel will also get silted up rapidly. The ryots' work consists of two parts, (a) Korambo works and (b) silt clearance works. With regard to other kind of channels under which the conventional Parre-kalva will be included Korombo work may not be necessary but extensive excavation in the bed of the stream is necessary.
- 7. We consider that prima facie there is a case for some concession. Whenever the entire burden of diverting the water into a channel and the periodical silt-clearance is thrown upon the ryot, substantial relief should be given. There is no material difference in the work involved between maintaining a channel from a river in which water is diverted with the aid of Korombo and an open mouth channel in the river. It will be appropriate in our view if river channels and Parre-kalvas or river spring channels are included under Class III of the table of water rates recommended by us and that Sonas, Bilas, Kasams, Uppalvat-bonda, spring channels which consist of sub-artesian spring ponds are included in Class-IV of the table. We consider further that open mouth river channels which in-

volve some contribution by ryots by way of labour to divert water by forming Korombo should be charged half of the water rates proposed under Class III of the sources and that Parre-kalvas or river spring channels which require constant labour to maintain regular flow should be charged one-third of the water rates proposed under the same class.

Paragraph 12.—Revision of ayacuts under old tanks.

Minor irrigation tanks play an important part in the irrigation of upland areas. These tanks are usually to be found in areas where other sources of water supply are rare. These are pockets of insurance against crop failures and deserve much more attention than is bestowed on them now. There has been an increasing gap between the registered ayacut of these sources and the area actually under wet cultivation. It is essential to repair the tanks so as to make them capable irrigating the entire area for which they were originally designed. Though in the Andhra region, some tanks in the taken-over villages of estates after their abolition and also in ryotwari villages have been repaired under the Grow More Food Scheme and under the circle system, still there is need to pay greater attention to them. The extension of ayacuts under them is sanctioned only when there is successful irrigation for more than five consecutive years. The avacuts in the Telangana area appear to be much more than what the tanks can command. The system of fixing ayacuts in Telangana area was found to be detrimental both to the ryots and to the Government as an average of 25 per cent to 30 per cent of the registered ayacut, remained uncultivated every year either for want of sufficient water or because big pattadars and well-todo ryots have often kept such lands waste to avoid payment of both wet and dry assessment. In such cases, the Government had to grant remission of both wet and dry assessments. Under the above circumstances, the Hyderabad Government passed an order bearing No. 4, dated 11th October 1949 that the avacuts of tanks should be limited to the extent actually irrigated, by eliminating from them the lands left waste for at least four years in the decade ending 1357 fasli, so that the Government could collect atleast the dry assessment from such lands. These orders have not been implemented upto now and the matter has been under correspondence all these years.

2. In some cases where the catchment of the tank is cultivated, the run off from the catchment does not reach the source. The ploughing up of the catchment area upto the

foreshore, has caused extensive silting up, as the loose soil gets washed down and gets deposited in the tank bed. The removal of the silt that has already accumulated in beds of tanks is an almost impossible task. Atleast further silting will have to be prevented.

- 3. One way of providing adequate supply to atleast a part of the ayacut is to limit it though it might lead to loss of revenue. There is case for such reduction of ayacuts of tanks under which there has been remission continuously for a number of years. We are also suggesting farther down the possibility of trying light irrigation. The alternative will be to repair the sources and bring them to their original standards by raising the surplus weir which is feasible only where the additional area which comes in the water spread of the tank belongs to Government or the owners are willing to relinquish their rights.
- 4. Some engineers opined that wet lands not irrigable by such tanks should be reclassified as dry. If the ryot does not voluntarily cultivate his land included in the ayacut for a period of five years, the Government may exclude it from the ayacut.
- 5. There are thousands of tanks especially in the erstwhile zamindari and jagir areas in a neglected state. The Committee has been told by many individuals that minor irrigation tanks are not receiving adequate attention. In addition to the deterioration in the condition of the tanks and the consequent diminution in the irrigable area, there is yet another hardship caused by the registration of excessive areas under tanks as wet. The water supply is inadequate for growing a good crop over the entire wet area and often there is total or partial failure. The remission of land revenue granted is negligible when compared to the money spent by the ryots. In such cases any statutory provision for exclusion of lands from the ayacuts will create legal complications though it may be in the interests of the ryots. The legal hurdles involved can only be got over by the consent of the ayacutdars.
- 6. We consider that it is worthwhile reiterating some of the remedies suggested by Sri S. Y. Krishnaswamy in his book "Monograph on Rural Problems."

"The remedies to be suggested for improving the condition of the tanks fall under two heads—first those that can be

carried out by local officers even by conforming to the existing rules and by the mere expenditure of a certain amount of extra zeal and diligence and second—those that call for legislative changes and important alterations of policy. The former are obviously within the realm of immediate practicability. But they only touch the fringe of the problem and it is by a bold policy of radical change with respect to fundamentals that any lasting benefit can be achieved.

The first remedy lies in the prevention of indiscriminate foreshore assignment. As has already been pointed out, a great deal of the original catchment area of tanks that used to be uncultivated jungle has now been brought under cultivation. In resettlement operations, there was a practice of not converting any foreshore land under the sources in question into assessed dry in the interests of the tank. These suggestions are made with reference to lands which are either now registered as poramboke or unassessed.

"The removal of the silt that has already accumulated in the beds of tanks is an impossible task. If further silting up is prevented, it will be a matter for satisfaction. Certain remedies followed with success are detailed below.—

(1) The rules for permission to quarry earth from tank beds should be interpreted in a very liberal way. At present such applications have to be scrutinized and orders passed and very often ryots are penalized for either (a) taking more than the quantity applied for (b) for non-domestic and non-agricultural purposes and (c) for taking it before the issue of orders. The earth in the tankbed is a definite hinderance to the irrigation, its existence there is useful to none and its removal is an unmixed blessing. In such circumstances the purpose of either insisting on applications or for making a distinction between agricultural and non-agricultural uses and domestic and non-domestic, in fact, between any one use and another, is not apparent. On the other hand the policy should be to encourage the ryots to remove earth from tankbeds. The general prohibition of not taking the earth from too near the bund alone need be insisted on. The rush of silt into the sluice could be prevented by a 'silt trap' with shutters-in two or three sections.

"There is water in many tanks without reaching the sluice As has been noticed, very few tanks are able to command the original ayacut. It is within the experience of local officers, that a tank registered as class-II is in fact only

a class-III or IV source. The reducing of the ayacuts of such tanks is a wide problem involving loss of revenue; but a step should be made in this direction atleast in the case of tanks in respect of which there has been continuous remission over a series of years. The elimination of such lands from the avacut involves no loss of revenue to Government but diminishes the correspondence and inspections involved in granting remissions and further helps to give a true account of the tank and its ayacut capacity...... In the second place the question of having a high-level and a low-level sluice may be considered with reference to the position of such sluices in relation to the possible extent that its height will enable to command on the one side, and on the other, the amount of remission saved by that extent of the ayacut at least being brought under cultivation. It is to be noted that this problem of two sluices arises mainly in the case of the large tanks. In the smaller tanks the sluice needs shifting only to a higher level. Where this is not possible silt shutters should anyhow be provided. There are various other points to consider such as the need for refusing all transfers of land from dry to wet and to encourage the applications for transfers from wet to dry. This process will be in the right direction. The mere fact that a person has been paying penal water rate for a number of years should not entitle him to a transfer of the concerned field to wet. Further in repairing bunds, the question of sluice leakage should always receive attention. With a leaking sluice, the best of bunds is useless. The sluice should always be so modelled as to admit of inspection without breaking open the bund. A telescopic system of sluice modelling has much in its favour."

7. We may state here that water, sufficient to irrigate a long term paddy crop in one acre of land, will be sufficient to irrigate dry crops, such as cholam, ragi, korra, cotton, groundnut, etc., on an area of 3 acres. The yield of an irrigated dry crop is three to five times that on an unirrigated land. When the irrigation source is not able to supply adequate quantity of water for the irrigation of the entire ayacut with wet crop, the ryots can very well be induced to grow irrigated dry crops in the tailend portions of the ayacut. Suppose a tank had an ayacut of 250 acres. On account of heavy silting of the bed its actual capacity now is only to supply water for the successful irrigation of long term paddy crop to an extent of 150 acres. Long term paddy crop may be raised in an extent of 100 acres, and in the remaining extent of 150 acres irrigated dry crops may be grown. The ryots will be benefitted

by having better yields while the Government will not lose revenue by the grant of remission for the lands left fallow. No land need be kept fallow as the entire area can be irrigated either with paddy or irrigated dry crops.

8. We recommend—

- (a) that all minor irrigation tanks should be adequately repaired and restored,
- (b) that further extension of ayacuts under irrigation sources should be stopped, unless the capacity of the tank is increased by special repairs or unless the existing capacity itself warrants such an extension,
- (c) that instead of converting the lands, for which water cannot be supplied for raising paddy, into dry, the ayacut can be split up whenever possible into B class and C class dry lands after giving notice of the proposal to the owners and hearing their objections, and
- (d) whenever ayacuts are fixed either after the construction of a new tank or execution of repairs to an old tank, the area should be localised, and properly demarcated so as to avoid haphazard development and future trouble.

Paragraph 13.—Irrigation Panchayats.

Minor Irrigation Works provide, to a considerable degree, protection against famine and scarcity in areas not served by perennial projects. They are in general looked after by the Public Works Department and Revenue Department. In recent times the question of transfer of control to local authorities such as Panchayats, etc., has assumed importance. Attempts to transfer the control and maintenance to Panchayats were made in some states. In Madhya Pradesh the Village Panchayats were entrusted with the maintenance of the Minor Irrigation Works. In the Composite Madras State, Government took some measures to make Village Panchayats and Informal Irrigation Panchayats responsible for the control and maintenance of Minor Irrigation Works. The details given below will be of interest.—

2. The question was dealt with by the Famine Commission constituted in 1878 by the Composite Madras Government, which recommended the transfer of control over the tanks irrigating less than 200 acres, to the villagers. This proposal

was considered by the Madras Government early in 1880. "After some unsuccessful and experimental attempts in the years 1883 to 1885 to transfer to the ryots jointly interested, all small tanks in Cuddapah and a few other selected districts, the matter was dropped pending the result of investigation then in progress in Madura district." In 1887, the Madras Government passed orders to hand over certain tanks in the Periakulam basin, in Madura district, to the ryots "on the understanding that they would be expected to maintain them under the supervision of the Collector in a state of repair upto the standard laid down in the descriptive review relating to the basin." The Collector was given a lump-sum-grant of four annas per acre on the ultimate area of cultivation, estimated by the Tank Survey party, from which he might pay the ryots such grant-in-aid as he might deem proper, and also meet the pay of the Tank-Inspector to be appointed to inspect and report on the condition of each tank and the value of the work done to it." The ryots of Periakulam basin declined to take over the tanks on the terms offered on grounds that there was no unity among themselves, that the proposed grant-in-aid was insufficient and that the Government declined to grant any remission. Hence the Madras Government dropped this proposal but they proposed that petty works irrigating less than 15 acres should be handed over to ryots, assessing the lands in their ayacuts at reduced rate to be fixed in each case but this proposal was never implemented After some correspondence with the Government of India and the Board of Revenue in 1894, the Government issued orders to the effect that tanks irrigating 50 acres and less might be transferred to the ryots concerned, in cases in which the avacut under them was held by a single ryot and in which the dry assessment on the water spread and on the ayacut would not involve loss of revenue. These orders did not take effect as no ryot came forward to undertake the cost of the upkeep of the tanks as no benefit of a reduction in his assessment was given.

3. In their order No. 2129, Revenue, of 14th December 1926, the Madras Government have prescribed a set of conditions governing the transfer of the control of irrigation works to panchayats constituted under the Madras Village Panchayat Act XV of 1920. It does not appear that any irrigation source had been transferred to the control of Panchayat Boards under these rules. Even under this provision much progress was not however made. The Madras Village Panchayat Act of 1920 was repealed by Madras Village Panchayat Act X of 1950. Provision was made in the Madras Village Panchayat Act X

of 1950 for transferring the control over small irrigation works to Village Panchayats. Rules were framed in G.O. No. 520, Local Administration, dated 24th March 1951 under section 59 (1) of the said Act relating to the transfer of control of irrigation sources to the Panchayats. Under these provisions, the control over two tanks in Muthukur village of Nellore district was transferred to the Panchayat Board. Only a beginning was made under these provisions.

4. In 1928, in their order 119 (1) dated 17th December 1928, the Government of Madras approved another set of conditions under which irrigation works might be transferred to the control of the Informal Irrigation Panchayats to be consituted with ayacutdars under the source as members. Under this scheme the Madras Government transferred control over 34 irrigation sources (as far as erstwhile Andhra State is concerned) to the informal Irrigation Panchayats upto the end of 1955-56. Out of these 34, 25 were reported to be working properly and 9 were dormant.

It can thus be seen that ryots have not taken advantage of the several provisions made from time to time in this regard. This question did not engage the attention of the Hyderabad Government for Telangana area until the Wet Rate Committee in paragraph 288 (29) of its report made the following recommendation on the maintenance of small Tanks and Kuntas.

"(29) The Committee feel that the Public Works Department with its increasing responsibilities towards large tanks and projects is unable to do any justice to the smaller sources and therefore they strongly recommend that the maintenance of small sources with an ayacut of 75 acres and less but more than 25 acres should be taken over by Taluqdars (Collectors). The Madras Rules relating to maintenance of minor irrigation works referred to in paragraph 262 should be adopted with necessary changes and appointment of establishment and allotment of budget provision for the execution of these works should be made, closely following the practice in that province. Under the 1939 Reforms Scheme the Panchayat Ain has been promulgated in the Dominions, and Panchayats have begun to work in many big villages. The Government now have the advantage of being able to use this new machinery also for this work under section 18 of the Panchayat Ain (Act). The Committee are of the opinion that sources with an ayacut of 25 acres and less should be handed over to ryots on the basis of one and half the maximum dry rate of the village, subject

to the condition that if any such source is situated in a series of tanks and is likely to affect other sources it should not be handed over to ryots but should be maintained by the Taluqdar. The ryots should be bound to maintain in good repair the sources thus handed over to them, and in case of default the Talugdar should be empowered the recover full wet assessment on the occupied ayacut under the source irrespective of whether any number is cultivated or not. The assessment at the rate of one and half the maximum dry rate should be recovered permanently irrespective of cultivation or failure of crop. The Committee believe that the proposed arrangement would encourage wet cultivation under these sources and reduce jamabandi and land inspection work considerably. If the proposal is accepted the existing wet assessment on lands under these sources will have to be reduced to one and half maximum dry rate. But in fact the existing wet assessment is merely on paper as lands under most of these sources are not cultivated due to the sources lying in a state of disrepair, and the wet assessment is remitted in jamabandi almost every year. Under the proposed arrangement Government will realise one and half the maximum dry rate on all such lands permanently and the Committee are confident that the actual income from these lands will be certainly larger than what it is at present. Apart from this Government will be free from the responsibility of maintaining these sources."

No orders have been passed on this subject by the erstwhile Hyderabad Government.

5. Sri L. Venkatakrishna Iyer, Chief Engineer (Irrigation) and Sri C. Seshavatharam, a retired Chief Engineer are not in favour of transferring the control over irrigation sources to panchayats for the reasons that proper atmosphere is lacking for such a measure and that "the Panchayats with their slender resources will pass on the effects of adverse seasons to poor ryots."

But we feel that times have changed. The Community Development Projects have awakened the ryots to a large extent. The proper atmosphere referred to should be created by sustained effort, as it will not come of its own accord. It can be created only by making a beginning by transferring an appreciable number of tanks to panchayats and tackling the problems that arise out of such a transfer. It will be, therefore, expedient that tanks with an ayacut of 50 acres or below but not forming part of a chain of tanks might be transferred to

the control of irrigation Panchayats which should consist of the ayacutdars of the sources as its members subject to the payment of 75 per cent of the total of dry assessments and water rates on lands already included in the ayacut of the said source and subject to the following further conditions.

- (i) that Public Works Department should bring up the tanks to the required standards before handing them over to the Panchayats.
- (ii) that the capacity of the tank should not be increased (standards should not be interfered with).
- (iii) that dry lands in the periphery of the ayacut of the tank could be irrigated with tank water only at the risk and hazard of the ayacutdars.
- (iv) that dry assessment should continue to be paid on all dry lands irrigated with tank water, and
- (v) that no remission would be granted for failure of crops for reasons which are not beyond the control of the ryots except in the case of widespread draught affecting the tract as a whole.
- 6. As regards repairs to small irrigation tanks, with an ayacut of 50 acres or less the present practice of maintaining them, is by entrusting the repairs either to the professional contractors or to the ayacutdars in rare and emergent cases like flood and scarcity times relaxing the usual procedure of calling for tenders under the departmental supervision. Generally the works are so petty and so scattered, that repairs cannot be carried out properly by any Departmental agency and it is desirable to entrust the repairs of small irrigation sources not forming part of a chain of tanks of irrigation Panchayats of ayacutdars by diverting normal maintenance grant to them. Besides, much technical skill is not required in executing these normal repairs. In this connection the opinions of Sri L. Venkatakrishna Iyer, Chief Engineer (Irrigation) and Sri C. Seshavatharam, retired Chief Engineer are of importance. Both of them felt it desirable to entrust the work of normal repairs to petty irrigation works to Panchayats. It has been considered more feasible to make payments strictly on the work turned out instead of lumpsum payments which are likely to be diverted for other purposes, allowing the irrigation works to suffer.

- 7. The organisation of the Community Development Projects and the present favourable atmosphere may be fully utilised and a beginning made. In the early stages, till the Panchayats gain adequate experience there may be a little direction and supervision by Technical Officers.
- 8. The Committee recommends that normal repairs to small irrigation sources with an ayacut of 50 acres or less but not forming part of a chain of tanks may be entrusted to Irrigation Panchayats consisting of ayacutdars of those sources as these works do not generally require any technical skill and that the Public Works Department or the Minor Irrigation staff can render such technical help as is found necessary free of any charge.

Paragraph 14.—Irrigation by private parties by pumping water from rivers, springs and channels.

In the Andhra region the erection of pumping installations in Government or private lands by ryots for the irrigation of their own lands as well as lands belonging to others is governed by the rules issued in G.O. No. 295 (I), dated 17th October 1919 as amplified in G.O. Ms. No. 117, Public Works and Transport, dated 12th January 1956. Any person who desires to erect a pumping installation on any margin of, or island in the Collair lake or on the bank of the Godavari or the Krishna river or of any drainage channels under the control of the Public Works Department, shall execute an agreement with a set of conditions, the main among other clauses being that there should be previous sanction, in writing, of the Superintending Engineer and the Collector, that water shall not be pumped direct from the lake, river or from any water course or drain, that it shall be lawful for the Executive Engineer concerned on giving three months previous notice in writing or without any notice in cases of emergency to refuse the use of the water, that the lands irrigated under the installation shall be subject to all the rules applicable from time to time to the irrigation of dry lands and that no land which can be irrigated by direct flow from any Government channel shall be included in the ayacut of the installation without the special sanction of the Superintending Engineer. Provisions are made under this order for grant of remissions, for enhanced charge, for unauthorised use of water for lands not covered by the agreement, and for the regulation or prohibition of forming bunds or tanks or ponds. Although these rules were framed to prevent unauthorised irrigation by pumps from the Collair or from the Godavari and the Krishna rivers, etc., they are

general in nature and they apply to all pumping schemes. But the Government have been imposing special additional conditions as and when necessary. The Government have imposed special conditions and permitted the Narasayapalem Lift Irrigation Society to install a pump at mile 44/6 of the right bank of the Kommamur canal in Bapatla taluk, Guntur district, and operate a pumping scheme for irrigating an extent of 56 acres of Narasayapalem village for a period of ten years. The special conditions are chiefly to the effect that food crops should be raised on the lands, that water should be taken only by pumping and that the supply should be at 90 duty. These rules provide for the masonry and shuttering arrangements, for the particular months during which supply is to be made, for the time of commencement of supply, for meeting the cost of construction of the installation, for the place of installation and for excavation of field bothies. In Telangana, these pumping installations are similar to Bhurkies and the maximum dry rates of the village are charged for irrigation by pumps. Bhurkies correspond to Doruvu wells in Andhra. Dry lands under Bhurkies constructed on the banks of natural rivers and nalas are charged at 1 and one eighth maximum dry rate of the village in the case of pucca Bhurkies and 1 and one fourth maximum dry rate in the case of katcha Bhurkies. The same rates apply even for new Bhurkies situated in patasthal wet land on which no assessment has been fixed by settlement and which are constructed by ryots on the banks of natural rivers and nalas. These rules do not however apply to Bhurkies on irrigation canals. सन्दर्भन नगर्न

2. The points to be considered are whether irrigation should be allowed by private parties, by pumping water from rivers, streams and irrigation canals and if allowed what rate should be charged in each of these cases. Opinions question. Engineers are not unanimous on this Engineers opine that private parties may be allowed to pump water from rivers and streams in Telangana area provided such pumping does not affect the irrigation sources. The Chief Engineers, Sri L. Venkatakrishna Iyer, and Sri G. A. Narasimha Rao consider that such permission may be granted and baling remission allowed. Sri G. A. Narasimha Rao is of the view that present baling remission should be increased from one-fourth to half of the charge for water. Sri C. Seshavatharam is of the view that the erection of pumping installations on irrigation canals and channels should be restricted and that in respect of rivers and streams it may be allowed if it is not detrimental to the interests of the riparian owners in the lowerdown reaches and if it does not cause any permanent damage to the irrigation source. He has further opined that in the case of canals with fixed and fully-developed ayacuts one to one and half times the water rate should be charged to work pumping schemes, and that concessional rates of half to three fourth may be adopted under rivers and streams depending on the nature of crops raised on the lands.

3. The rules now in force cover a wide range and provide safeguards to protect the interests of the ryots lower down. Meticulous precautions are taken both on the technical and the administrative side while granting permission to install pumps. The ryot has to utilise only the surface flow in the rivers and streams and so long as the rights of the riparian owners lowerdown are not affected there will be no harm in liberally allowing pumping from such sources. There is no fear of any person who is thus permitted wasting water as he incurs additional expenditure in pumping more water than necessary for his crops. More than 80 per cent of our river water is getting emptied into the sea and hence water drawn by pumping for agriculture will be insignificant and will in no way be harmful to the existing interests. Provision of irrigation facilities, at present, cost about Rs. 500 and above per acre to Government and the direct return does not cover even interest charges. The distinction between productive and protective works has ceased in practice. The exercise of the right of Government to charge for water taken by pumping should not suppress the ryots' initiative for undertaking pumping schemes and expansion of irrigation. To-day, it has become the duty of the State to create incentive to people to use water made available at great cost. For increased food production, the Government are subsidising well sinking upto a sum of Rs. 750 per well. It will therefore be quite proper to encourage pumping even by granting subsidies where called for so long as the existing rights of others are not infringed. As observed earlier the scheme may be technically checked up and approved before permission is accorded. This checking will also be in the interest of the ryot. As for pumping from irrigation canals, the chief point that should weigh in favour of the grant of such permission is the availability of adequate surpluses. In designing new canals provision should be made for carrying a little surplus to allow for pumping on the higher side, if there should be any such demand for irrigation. It is, therefore, evident that every case will have to be decided on its own merits. As no two cases are similar it is a salutary principle that prior permission should be obtained so that the officer granting per-

mission could safeguard the established rights of the ayacutdars lower-down. Permission need not be refused on the ground that land under another pump is affected as the criterion is that no settled ayacut should be affected. The Revenue Department can as usual permit the installations. As the chief principle underlying the grant of permission is to allow the use of water going waste to the sea, it will, in our view, be quite sufficient, if the right of the Government is enforced by a symbolic levy and by the grant of permission. We, therefore, finally recommend that irrigation by direct pumping from rivers and streams may be permitted liberally with the previous sanction of the Collectors who may obtain if necessary, technical advice. A small licence fee at the rate of one rupee per horse-power of the engine per annum may be levied to preserve the right of the Government to the water. In all other cases, where power is not utilised for lifting, Government may fix a nominal licence fee. We are further of the view that irrigation by direct pumping from irrigation canals should not be permitted except when there is obvious surplus and that the area so irrigated should be charged at one third of the normal water rate and also subject to the condition that the rights of the registered ayacutdars are not affected. For this purpose any other person who had obtained prior permission for pumping in a similar manner will not be considered to be an avacutdar.

Paragraph 15.—Steps for the prevention of unauthorized use of water.

- 1. Unauthorized use of water beyond the localised ayacuts of irrigation projects and also ordinary irrigation sources has almost become a menace. There are many ways in which ryots resort to unauthorised or irregular irrigation. They are, irrigation by breaches, cuts, cross-bunds, unauthorised diversion of water from one source to another, and unauthorised irrigation of lands not included in the ayacut. According to Board's Standing Orders, irrigation is said to be irregular when water from a Government source is taken or used in the following cases.—
- (1) When the water is taken or used for a ryotwari or minor inam land registered as wet in the Revenue Registers or for any land in proprietary tracts recognised by Government as mamul wet otherwise than in accordance with the conditions on which it is so registered or recognised.

- (2) When the water is taken or used for any other land otherwise than under and in accordance with the terms of a general or a special permit in force issued by a competent authority.
- (3) When the water is taken or used for any land in a manner involving any unauthorised interference with an irrigation or a drainage work such as cross-bunding a channel, making a cut or a hole in the bund, opening or breaking a sluice, changing a pipe or altering the position of a pipe.
- (4) When the water is taken or used for any land contrary to the orders of any authority competent to give such orders.
- (5) When the water is taken or used for any land, in breach of any rule or regulation directing from what source or on what conditions water may be taken to or used for such land.
- 2. All kinds of unauthorized irrigation except those relating to irrigation by making breaches and cross-bunding are generally booked by village officers, inspected by Revenue Inspector and reported to the Tahsildar for orders. authorized irrigation by breaches and cross-bunding are expected to be booked by the Public Works Department and sent to the Tahsildar for immediate verification and passing orders. Revenue Officers are also authorised to bring to No. 6 account, cases of unauthorised irrigation of breaches but generally it is the Public Works Department officers that do this. After the account is sent by the Public Works Department Officers it will be verified by the Revenue Inspector and his remarks obtained. The Tahsildar inspects the case, if necessary, and passes orders. The orders of the Tahsildar are subject to review by Jamabandi Officer at the time of Jamabandi. Divisional Officers, Tahsildars and Deputy Tahsildars are empowered to levy penalties for irregular or unauthorised irrigation, in accordance with the rules contained in Section-H of Appendix-I to Board's Standing Order 4. The Board of Revenue in its proceedings Mis. No. 17/57, dated 5th January 1957, issued instructions to the effect that the Tahsildar should arrange to give wide publicity in each village to the fact that breach irrigation is an offence liable for punishment. The Revenue Inspector should invariably inspect all Tiruvajasti and Fasalijasti cases. He should also watch all breach irrigation cases and leave detailed remarks about such cases in the

adangals. The Tahsildar should over-check a fair percentage of such cases. All cases of breach irrigation detected and reported by Public Works Department officers should be invariably inspected either by Revenue Inspector or Tahsildar immediately after a report about such breach irrigation is received from the Public Works Department Officials. Care should be taken to detect the genuineness of the breach irrigation. The Revenue Officers should be in constant touch with the local Public Works Department officials and steps should be taken to launch prosecutions in deserving cases. In Telagana region, under section 31 of the Hyderabad Irrigation Act, if water supplied through a water course is used in an unauthorised manner, the person or persons responsible shall be liable for the charges which shall be recovered as an arrear of land revenue in addition to other penalties. Usually the penalty which can be levied for irregular irrigation is only dry assessment in addition to the usual wet assessment. If on the other hand, the matter is reported to the Collector under section 49 (1) of the Hyderabad Irrigation Act, 1357 fasli, the person concerned shall on conviction be punished with a fine which may extend to Rs. 500. The Collector may if he so considers refer the case to a Special Magistrate for disposal, if he considers that the person who is responsible for irregular irrigation and damage to the works deserves to be punished with a sentence of imprisonment. An appeal lies to the Board of Revenue against the orders of the Collector imposing the fine. Thus it can be seen that in both Telangana and Andhra regions of the State, the unauthorised irrigation is controlled by the Officers of the Revenue Department by imposing penalties. But the Public Works Department is the agency for distributing water except in the case of the minor irrigation sources, controlled by the Revenue Department.

- (3) The Engineers' opinion in regard to the prevention of unauthorised irrigation is that the distributing agency *i.e.*, the officers of Public Works Department should be authorised to levy penalties as in States like Mysore, the Punjab and Bombay and that a few Revenue Officers may be attached to Public Works Department to help the latter in the principles of water assessment. Sri A. R. Venkataraman, Chief Engineer (Irrigation) Hyderabad, suggested that Public Works Department Officers might be entrusted with magisterial powers to punish offenders then and there.
- (4) This divided responsibility has led to misunderstandings and inefficiency. There is a lot of complaint that the

officers of the Revenue Department are not co-operating with the officers of the Public Works Department to prevent damage to irrigation works; that the penalties imposed are mostly remitted at the time of Jamabandi on the scope that no damage has been proved or that the damage if proved, is trifling or not material and that the diminution of supply has not been proved. This attitude has led to an increase in the number of cases of unauthorised irrigation. Sri C. Seshavataram, a retired Chief Engineer is of the view that unauthorised irrigation has assumed even notorious proportions. Leniency in cases of breach irrigation cannot be justified. Any body who diverts water high-handedly from the prescribed ayacut to another area will be certainly damaging the interests of the ryots who have their lands under that sluice. The present method of preventing unauthorised irrigation by the agency of the village officers has not given any fruitful results as the village officers, on account of local party affiliations are unable to function properly in this respect. It is also noticed that in a good number of cases the village officers themselves are the persons cerned.

(5) The Committee feels that technical persons however highly qualified they may be, cannot function as Magistrates without special training. They have to follow the Evidence Act in recording the evidence and follow the procedure in the Code of Criminal Procedure, if they are to act as Magistrates. It will be wasting technical personnel, if the Public Works Department officers are made to take training in judicial work. It will also be inadvisable to place an extra burden on the Public Works Department officials who are occupying a very important position with regard to the distribution of water which is the life blood of the Delta. Moreover prosecutions cannot be successful unless some body can be caught in the act of breaching or putting the cross-bund and witnesses who will not retract, are produced. Statements taken otherwise than before a Magistrate are inadmissible in evidence and the parties can go back on them with impunity. The menace of unauthorised irrigation cannot be stamped out without the co-operation of the ryots. We are of the view that deterrent punishment is called for.

(6) We therefore recommend that.—

(a) Firstly warning should be given to the ryots that heavy penalties would be imposed if a ryot takes water without permission.

- (b) Where there is a breach caused as a result of flood or other natural causes it should be reported to the authorities by the ryots concerned. If no such report is made within a reasonable time, it should be presumed that it has been caused by the ryots who irrigate their lands by means of the water through the breach and all irrigation under it should be heavily penalised. Steps should be taken to legislate to this effect.
- (c) Till now no clear-cut distinction has been made between irregular irrigation and unauthorised irrigation. We feel that a class distinction has to be made as indicated below:—

The term Irregular-Irrigation has to cover all cases of water taken or used for any land in a manner involving any unauthorised interference with an irrigation or drainage work, such as cross-bunding a channel, making a cut or hole in the bund, opening or breaking a sluice, changing a pipe or altering the position of a pipe.

The term Unauthorized Irrigation should be applicable to cases of water taken or used for any land contrary to the orders of any authority competent to give such orders.

(7) We recommend the adoption of the following schedule for the levy of penal water charge—which includes the charge for water also—for irregular and unauthorized irrigation from the Government source or work:

	Number of occasion	নক্ষমৰ সমৰ For			
		Irregular irrigation	Unauthorised irrigation		
(i)	On the first occasion	Three times the water charge.	Three times the water charge.		
(ii)	On the second occasion	Six times the water charge.	Six times the water charge.		
(iii)	On the third occasion	Twelve times the water charge.	Twelve times the water charge.		
(iv)	On the fourth or any subsequent occasion.	Twenty times the water charge.	Twenty times the water charge.		
		Note.—The officer levying the penal water charge for irregular irrigation has no discretion to remit any portion of it.	Note.—The Officer levying the penal water charge may, at his discretion, remit any portion of the enhanced water-cess in deserving cases to not less than one rate.		

The existing rules may be modified in accordance with the above recommendations where necessary. Paragraph 16.—Abandonment of tanks in project areas and their assignment for cultivation or maintaining them as supplemental reservoirs for irrigation.

Tanks are mostly rain-fed and depend on an intermittent supply resulting from surface drainage. There are some tanks which receive supplies from rivers and streams. In some areas even cultivation of paddy is carried on purely under rain-fed conditions. But in most of the areas, from very ancient times, tanks, big and small, have been constructed to store up the rain water. During summer, the water in the tanks served the needs of men and cattle. Even when all the water evaporates in summer, the saturated bed is a very good receptacle for the occasional supply from storms in summer. These small tanks have served as an insurance against famine even during years of low rainfall.

2. Construction of reservoirs in the vicinity of these small tanks brings in its wake problems of drainage, as provision of proper drainage facilities is essential for successful agriculture in the avacuts of such tanks. Drainage and irrigation channels have to be provided simultaneously wherever water other than rain water is made available for the irrigation of crops. When tanks already exist in areas which come under the command of bigger projects, in some tracts, new drainage problems arise and extensive areas either get submerged partially or totally. Even when there is no actual submersion, water stagnation in the sub-soil is caused. In such cases abandonment of such tanks has to be considered, if watersupply for their original ayacuts is assured direct from the projects. While harnessing flood waters of rivers and streams by means of reservoirs the rain-fed tanks in that area are generally linked with the canals from the reservoirs. tion of breaching the tanks arises only where the original ayacut of the tank is commandable directly by the project canals and no drainage facilities other than the drainage into the tank are available for lands, in the catchment of the tank which become saline as a result of such lack of drainage facilities. There is no unanimity in the opinion of Engineers on this question. They are also not definite whether these tanks can be abandoned or whether they can be retained. G. A. Narasimha Rao, Chief Engineer, Nagarjunasagar Project and Sri A. R. Venkataraman, Chief Engineer (Irrigation) suggested that each case should be considered on its merits. Sri L. Venkatakrishna Iyer, the Special Chief Engineer (Irrigation), Hyderabad, opined that all such tanks with less than 50 acres of avacut each which can be fed by a project canal can be breached and the bed reclaimed for cultivation. the case of tanks having an ayacut of over 50 acres, each has to be considered on its merits. If the supply to the tank from its own catchment is sufficient—all that is required is stabilization—it need not be breached. If the supply is very much short of requirements, it may be breached. According to Sri C. Seshavatharam, retired Chief Engineer, tanks with 30 to 50 acres of avacut or more may be retained, fed from the project canal, for storage for an additional second crop and thus assure the second crop which will ultimately go to the credit of the project. Sri Lakkaraju Venkata Subba Rao is in favour of retaining the tanks and utilizing them.

3. There is thus marked difference of opinion with regard to the need for retaining or breaching tanks in the areas commanded by projects. Conditions vary from district to district and from project to project. Rainfall, intensity of summer, availability of drinking water for the cattle, the nature of the soils and their salt-contents also vary considerably even within the same tract. The opinions of the ryots in the area and of the local officers will be of much help in deciding whether a tank has to be breached or not, especially during the investigation of the project. It is not possible to lay down a hard and fast rule on this question. The Committee, therefore, is of the view that each case should be decided on its merits weight being given to the views of the ayacutdars and also the ryots in the foreshore who may be affected adversely. In case of abandonment the bed will have to be assigned for cultivation. If retained, the water charge for lands under it must be upgraded to that under the project.

Paragraph 17.—Is the rotation of crops fixed by the Government under projects like Tungabhadra followed? If not what are the difficulties?

"Cropping Pattern" is the term used to describe the type of crops to be raised, the season, the period, and the duration of each such crop as also the order in which such crops should be rotated.

The Tungabhadra project low-level canal scheme was originally designed to benefit mainly the famine stricken areas in parts of Bellary district (now in Mysore State), parts of the Kurnool district, and some area of erstwhile Hyderabad State (now in Mysore State). The high-level canal which is still to be executed is intended to serve the needs of Anantapur and Cuddapah districts. A research station was established at Siriguppa in 1937 and there is another at Yemmiganur to investigate all the problems incidental to irrigation in black-soils as the Tungabhadra Project chiefly benefits lands comprising black cotton soils. The Tungabhadra Project, low-level canal scheme, though first conceived as an all-wet scheme for the irrigation of only wet crops, has now been evolved into a scheme for the irrigation of chiefly dry crops for the following reasons:—

- (i) that the soil of the tract, in general, is said to be unsuited for heavy irrigation,
- (ii) that the ryots in the area, are not used to wet cultivation but prefer to grow dry crops; and
- (iii) that, as a wet scheme, the irrigable area would be considerably reduced and that it was essential to spread the benefits of irrigation over as large a part of the famine-stricken area as possible.

Consequently a dry-cum-wet scheme was evolved by which the waters could be regulated for perennial, wet and irrigated dry crops.

Wet Zone.—The wet ayacut is 36,097·11 acres. This ayacut was divided into half to half for early and late planting of paddy. The former will require water for planting from June onwards while the latter from October. Only 50 per cent of the ayacut will receive water at one time either in early Mungari season commencing from June or late in the Hingari season commencing from the middle of October to the end of February. Thus it is made possible to raise single wet crop in the early season over half the extent and on the remaining half in the late season. This has been done with a view to extend the benefit of irrigation to as large an extent as possible. The system of canals has also been designed and excavated so as to feed only half the area in wet and dry-cum-wet blocks in either of the seasons (early or late seasons). At pre-

sent the following cropping pattern has been advocated in the Tungabhadra Project area as only half the wet ayacut will be irrigated in either seasons.

	Crop	Variety	Planting season	Harvesting season	Remarks
	(1)	(2)	(3)	(4)	(5)
(a)	Green manure	en manure Sunhemp.		e. July To b	
	Early or main season paddy	GEB-24.	July-August	December- January.	7 weeks.
(b)	Green manure crop.	Dhaincha or Sunhemp.	June-July.	August- September.	••
	Late season paddy. Early type varieties.	ADT-18 or MTU-15	September- October.	January- February.	i • •
	Late varieties	Co. 2 or ASD-5	September October.	February- March.	

Dry irrigated zone.—The dry-cum-wet ayacut of the Tungabhadra Project in our State is 1,12,627.89 acres. In this zone water supply is available from June to February. Only one dry irrigated crop can be raised during the period. The crops are indicated below:—

Particulars	Crop	Variety	Sowing season	Harvesting Remarks season
(1)	(2)	(3)	(4)	(5) (6)
(a) 3-year course rotation for deep black soils.	Groundnut red gram mixture.	TMV. 2, 2900.	June-July.	Groundnut lst year. can be harvested in October, November, and redgram in January-February.
	Mungari Jonna	Co. 9	June-July	November- 2nd year. December.
	Green- manure.	Sunhemp	June.	July (to be ploughed in after 7 weeks. 3rd year
	Combodia cotton.	Lakshmi	Middle of August.	}

Particulars	Crop	Variety	Sowing season	Harvesting season	Remarks	
(1)	(2)	(3)	(4)	(5)	(6)	
(b) 3-year course rotation shallow soils.	Groundnut Redgram mixture,	TMV. 2, 2900.	June-July.	Groundnut October- November, Redgram January- February.	Ist year.	
	Green- manure.	Sunhemp.	June.	July.	} .	
	Combodia.	Lakshmi.	Middle of August.	March- April.	2nd year.	
	Korra	N. 1.	June-July	October November,	3rd year.	
(c) 4-year course, rotation for deep and	Green- manure,	Sunhemp.	June-July.	August September	1.00	
shallow soils.	Glummed wheat.	local.	October- November.	February- March,	} 1st year.	
	Groundnut Redgram mixture.	TMV. 2, 2900.	June-July.	Groundnut October to November, Redgram, January- February,	2nd year,	
	Jouna.	Co. 9	June-July.	October- November	}	
	Green- manure.	Sunhemp.	June.	July.	3rd year	
	Cambodia cotton.	Lakshmi	Middle of August.	March- April.	4th year.	

The ayacutdars in this zone can adopt any one of the above rotations suggested. It is possible to raise Bengalgram as dry rain-fed rabi crop sowing in November in the same land soon after the harvest of Mungari Jonna which should be sown early in June and harvested in October-November. In place of pulse crop, the ryot can grow a fodder crop if he so desires. In addition to the crops mentioned above other minor crops such as chillies, vegetables, maize and fruit crops can be grown in

small extents according to the requirements and demand. According to the existing arrangements in Tungabhadra Project area, water supplied in the ratio of 50:160 to wet and dry-cum-wet areas. On this basis of water requirement, the cropping pattern has been determined.

- 2. Proper utilization of the large volume of water supplied through this project has been achieved to a great extent by resorting to a proper rotation of crops. Moreover it is proved that dry crops irrigated, give several times more yield than dry crops grown exclusively under rain-fed conditions. This has led to an increase in the extent of cotton crop from 21.9 per cent to 33 per cent of the area already sown in the ayacut.
- 3. As seen from the answers to question 22 of Part IV of the questionnaire issued by this Committee no difficulties have been experienced by ryots in adhering to the said cropping pattern. The Special Collector, Tungabhadra Project, has suggested that a slight change in the cropping pattern of Tungabhadra Project area is required for the following reasons:—
- (i) Reported non-availability of suitable strain of paddy to be grown, between September and February and consequent necessity to push in all wet crops into the Mungari season.
- (ii) Lack of demand for water for irrigation of jonna and korra in Mungari season and hence the need to divert area to Lakshmi cotton.

One difficulty which was brought to our notice by the ryots in this area was the general inadequacy of supply felt during the overlapping period when both Mungari and Hingari crop are in the field and both need water. However problems such as these and continuous improvement of the cropping pattern should engage the attention of the Irrigation Development Board.

4. No cropping pattern has been fixed in other project areas either in Telangana or in Andhra regions of the State. Incidentally under all irrigation projects in Telangana only paddy is grown and as such the question of evolving a separate cropping pattern does not seem to have been considered.

We understand that for a given quantity of water, more food can be produced through light irrigated dry crops—rather than through paddy. This must be kept in view and suitable cropping pattern evolved for each area.

5. A cropping pattern similar to the one evolved for the Tungabhadra Project area will be necessary in the Nagarjunasagar Project area also which is designed to irrigate wet crops in one-third of the ayacut and dry crops in the remaining two-thirds of the ayacut.

CHAPTER XIII.

Paragraph 18.—The reasons for the time lag between the creation of the irrigation potential and its utilization.

Governments have been spending large amounts on irrigation projects in answer to the persistent demands of the people in the areas. Nevertheless the ryots have not been able to take full advantage of the facilities. A statement showing the projects which have been completed and have commenced supplying water together with the targets fixed for the development of ayacuts and the progress so far made is appended (Appendix 15).

2. In this connection it is necessary to go into the reasons for not developing the ayacuts, whether it is due to lack of minor distributaries or to the heavy cost of conversion of dry lands to wet. Questions 24 and 25 of Part IV of the questionnaire issued by this Committee relate to these matters which are extracted below:—

Question No. 24.—Are there any indications, that commandable land under any project has not been brought under wet irrigation on account of heavy cost of conversion to wet?

If so, what are your suggestions to solve the problem?

Question No. 25.—Has the utilization of irrigation facilities of projects been impeded in any way by lack of minor distributaries or their timely maintenance?

The answers received are summarized below: -

Question No. 24.—A majority of the individuals (both official and non-official) have stated that there are indications

of commandable area having been left unirrigated due to heavy cost of conversion of dry lands into wet. They consider that if the ryots are provided with bull-dozers, tractors, agricultural implements, chemical fertilizers, improved seeds besides financial assistance in the shape of long-term and lumpsum loans at low rate of interest, the problem will be solved. Some are of the view that concessions from one-fourth to half assessment, or exemption of water charge for a period of five years would afford relief to the ryots and as a result conversion from dry to wet would be accelerated. Some others suggested that 10 per cent of the cost of the project should be reserved for giving loans for the development of such lands. Another suggestion is that the excess land from the ryots should be acquired and assigned to ryots who would convert land to wet. Some desire that the Government themselves should make the land fit for cultivation by ploughing and levelling it with tractors.

Question No. 25.—According to a majority of persons who answered the question, the utilization of irrigation facilities has been impeded either due to the lack of minor distributaries or their timely maintenance. Some others have stated that since the maintenance and repairs are expected to be done by the ryots—and these ryots lack the spirit of co-operation—the maintenance is very unsatisfactory. Some suggested that the Village Officers and ayacutdars should be made responsible for the timely repairs of the distributaries or to entrust this work to Village Panchayats. A few expressed the view that the cost of construction of the field channels should not be collected from the ryots and that financial assistance should come from the Government to the ryots to bring their lands under irrigation.

3. Steps, to provide facilities in several directions like grant of takkavi loans, education of ryots by means of Government demonstration plots in the project areas in respect of improved methods of cultivation, provision of bull-dozers and tractors, formation of Co-operative Societies for advancing loans, upgrading of cattle are taken by the Government in consultation with the State Irrigation Development Board, the District Irrigation Development Boards and Irrigation Consultation Committees specially formed by the Government. We suggest that the Agricultural Department should study and find solutions to the problems of the ryots in areas which are saline or are difficult to work.

4. We dealt with these aspects at length earlier while discussing the principles of levy of water charge on land newly brought under cultivation, and recommended a revision of the schedules of water rates to be levied on red and black soils over a period of five and six years respectively from the time, the water is made available to the ryot at his field when effective potential can be said to have been created and not from the time when the headworks are completed, and water is let into the main canals. The creation of such effective potential and provision of concession spread over a period of five or six years will in our view accelerate the development of the ayacut.

Paragraph 19.—Is it desirable to transfer the maintenance of works of minor distributaries to the ayacutdars?

For a correct understanding of the term 'Minor distributaries' from a technical point of view it is necessary to enumerate the several means of distributing water to the ayacut under an irrigation system. The distribution works of a system are the canals and channels by which the irrigation water is conveyed from the head-works to the fields, with the subsidiary works pertaining to them. The canals or channels, which take their supply directly from the head works are main canals, or channels, while canals and channels taking off from main canals are termed "branch canals" or "distributaries".

- 2. The canals and channels of a large canal system may be classified as follows:—
 - (i) Main canals.
- (ii) Branch canals: Canals taking off from a main canal and having a head capacity of not less than 300 cusecs.
- (iii) Distributary channel: A channel taking off from a main, or branch canal or from another distributory having a head capacity as below:—
 - (a) A major distributary under 300 and above 25 cusecs.
 - (b) A minor distributary carrying 25 cusecs and below.

The above channels constitute the Government distribution works of an irrigation system.

- (iv) Field channels also termed "water courses"—These are small channels constructed by cultivators and are not the property of Government; they run from outlets in the Government channels through the cultivators' own lands and convey and distribute waters to the individual fields. Under modern systems, these channels seldom carry more water at the head than three or four cusecs and often much less.
- 3. It is thus clear that in an irrigation system, all works except field channels or water courses which ultimately carry water to the fields from the head works are the property of the Government. The point at issue is whether it is desirable to transfer the maintenance of the works of minor distributaries to the ayacutdars. In the ladder of distribution works "the minor distributaries" occupy a position above field channels and are to be maintained by the Government. They have a head capacity of 25 cusecs and under. In project areas, the Public Works Department look after and maintain all distribution works at Government cost except the fields channels. The Public Works Department is also in charge of all tanks having an avacut of 200 acres and more in Andhra area and acres 100 and more in Telangana area. In the maintenance of these irrigation sources there is dual responsibility. The Public Works Department Officers attend to the maintenance of only the tank bund, sluices, surplus weirs and aprons. But all distribution works like canals and channels which mostly correspond to minor distributaries and which are even directly connected with the sluices are to be maintained in good repair by the ayacutdars irrespective of the "head capacity" of each channel and the extent of ayacut under it. This part of the work has to be got done and supervised by the Revenue Officials. The provisions of the Madras Compulsory Labour Act (Kudimaramat Act), 1858 are applicable to such works. As observed by Sri S. Y. Krishnaswamy "Kudimaramat is nowa-days an accident as no ayacutdar realizes his responsibility for the maintenance and upkeep of the irrigation sources. such cases notices are served on the ayacutdars to execute the repair within a stipulated time and if the work is not carried out, it will be executed by the Revenue Officials, and cess levied". These works are carried out by the Minor Irrigation staff which has since been strengthened by the addition of an Assistant Engineer to work under the Collector in some dis-

tricts. In spite of all these steps, there have been complaints about the disrepairs of these distributaries and the consequent diminution in water supply to the tail-end lands under such distributaries. The ryots under the Pennar-Kumudvati Project of Hindupur taluk specially represented their difficulties as the channels taking off from the sluices have a length of five miles. We are of the view that it is not desirable to transfer the maintenance of distributaries to the ayacutdars just at present. For special reasons we have, however, recommended elsewhere the handing over of small minor irrigation tanks and kuntas with an ayacut of 50 acres and below and also the maintenance of small irrigation tanks with an avacut of 50 acres and less to irrigation panchayats consisting of ayacutdars under the source as its members, so that a beginning in placing responsibility in the hands of ayacutdars may be made. In a similar manner the maintenance of minor distributaries supplying water to-small blocks of 150 to 200 acres—may be handed over to the ryots in the ayacut if there are responsible people who can co-operate with each other.

Paragraph 20.—A parity or uniformity in the levy of water rates on sources in other States irrigating land in this State and vice versa.

The Government in their D.O. No. 24203/M/58-1, dated 27th May 1958, have referred to the levy of water cess on lands in Andhra Pradesh irrigated with the aid of water from sources belonging to other States and of cases where the lands in other States are irrigated from sources belonging to the "The general idea has been to amend the Andhra Pradesh. Irrigation Cess Act so as to permit the State Government to levy water cess in respect of lands in this State irrigated from sources in other States, and to address the Governments of neighbouring States to take steps to collect appropriate irrigation charges on lands irrigated in those States from sources in this State and to credit the amount to this State. Obviously all arrangements in this matter will have to be reciprocal in nature". The Government sought the recommendations of this Committee.

2. The Government have stated that a consolidated list of cases of the kind referred to was called for from the Board and that it would be furnished to the Committee on its receipt from the Board. The list has not so far been received either from the Government or from the Board.

- 3. Information obtained from the Board's Office shows that there are lands in this State irrigated from sources belonging to other States and *vice versa* as detailed below:—
- (a) Lands in this State irrigated from sources belonging to other States:

Serial Numbe	Name of the district	<u> </u>	Name of source		the State in source lies
1.	Srikakulam district	••	Suvani tank of Berhampur taluq		Orissa State
			Lakshmisagaram		do
		AN S	Buragamgedda	• •	do
	<		Radhasagaram		do
			Krishnasagaram		do
		1/	Chintalacheruvu		do
		6.0	Mahendratanaya rive	r	do
		and	Battisiripuram anicu	t	do
2.	Chittoor district	473	Anjuram channel of North Arcot Distr	ict	Madras State
			Sholingar tank of North Arcot Distr	ict	do
			Egava Voddu of Bangari village		Mysore State
			Chokkabanda tank		do
3.	Mahaboobnagar district	••	Weir of Ajlapur tank of Yadgir taluk		do
			Kunta situated in Pollaladoddi of Rai- chur district		do
4.	Kurnool district		Tungabhadra project	• •	do

(b) Lands irrigated in other States from the sources belonging to this State:

	Serial Name of irrigation source and the amber discrict in which situated	Name of villages in other States in which lands irrigated from sources in Col. 2	Name of the State	
_((2)	(3)		
	Anantapur Dist	RICT		
1.	Cherlopalli tank of Moda village of Hindupur talııq.	- Lands of Mysore state,	Mysore state.	
2.	Pargi tank of Sirekolam village of Hindupur taluq.	do /	do	
	CHITTOOR DISTRICT			
3.	Keelapudi Eti kalva of Puttur taluq.	Lands of Tiruvallur taluq.	Madras State.	
4.	Srirangapuram Eti kalva of Puttur taluq.	do	đo	
5.	Athurkasam kalva of Futtur taluq	do ·	do	
6.	Javvajirama-samudram tank in Kangundi Forest Reserve of Palmaner taluq.	Lands of Madras State	do	
7.	Gollapalli tank in Kangundi forest reserve of Palmaner taluq.	do	đo	

^{4.} There is no information in the Board's Office regarding the rate of water-charge levied in either case. We have no time to enquire into this question as the lists have not been received from the Government. In any case we consider that there should be uniformity in the levy of water charge within our State, and we have recommended the charging of rates in accordance with the table suggested in our report. We, therefore consider that it is not possible to have parity or uniformity in the levy of water charge on sources in other States irrigating lands in this State and vice versa.

Paragraph 21.—Betterment levy and the special rates for contributed ayacut schemes.

Most of the States in India have accepted the principle of collecting contributions from the beneficiaries under completed

irrigation and river valley projects called "betterment contribution" besides levying the usual land assessment and water charges. The National Developmental Council, has recognised this principle of recovering a portion of the capital invested on the construction and completion of the several irrigation projects. The principle underlying the collection of betterment contribution is that a portion of the additional value that accrues to the land by the provision of irrigation facilities and the guarantee of water supply should be available to the Government. This contribution would enable the Government to take up other development schemes and irrigation projects proposed to be constructed during the several periods of phased programmes. Therefore, every possible effort has to be made to augment the resources of the Government by an equitable levy of betterment contribution from the owners of lands receiving new or improved irrigation facilities. Many State Governments have taken measures to enact laws in this regard. There are separate enactments in force with regard to betterment levy in Andhra and Telangana regions. The collection of betterment contributions, however, has not yet commenced.

- 2. The basis and the quantum of betterment contribution levied or proposed to be levied differ from State to State. Generally speaking the factors taken into account for its levy are:—
- (i) The increase in the market value of land as a result of the new facilities made available on completion of the project after deducting the reclamation charges,
- (ii) in Andhra, increase in the value of the land is calculated, by capitalizing the increase in the net additional income from agricultural produce, in a year by multiplying it with 25 and by multiplying the value of the gross additional increase in production with ten in Telangana, and
- (iii) increase in the yield of staple food crops only is taken into account.
- 3. Other factors like the quality of soil, the expenditure involved in converting dry land to wet and the type of irrigation are also kept generally in view. The proposed recovery is only a fraction of the additional unearned benefit. Provisions are also made for the recovery of the betterment contributions in lumpsum or in equitable instalments and also in the shape of land to be surrendered to Government in

lieu of cash payments. This provision for recovery in the shape of land is mainly intended to enable the persons who cannot make a payment in cash to be relieved of the burden of paying the betterment contribution, especially in the case of owners having large extents of dry land.

- 4. The erstwhile Andhra Government passed Act XXV of 1955 for the levy of betterment contribution. The Hyderabad Government also passed Act V of 1952 (The Hyderabad Irrigation "Betterment Contribution and Inclusion Fees" Act, 1952) in this regard. The Government of Andhra Pradesh have already taken steps to integrate both the Andhra Act XXV of 1955 and the Hyderabad Act V of 1952 and the integrated Bill is awaiting the approval of the Legislature.
- 5. We are of the opinion that the idea behind the levy of betterment contribution is that the general tax payer should not bear the burden of the works intended for the benefit only of a section of the community. The important question whether the minimum limit for the levy of betterment contribution should be the cost of the project which should be more than a lakh of rupees as in Andhra or whether it should be on the basis of a minimum ayacut of 2,000 acres as in Telangana. The Board of Revenue has recommended that the cost of the project should be the criterion and this provision was adopted in the integrated Bill. We consider that a rigid floor of one lakh of rupees will not cover all cases of improvements made to various kinds of irrigation sources. For instance there is the Madras Tank Improvement Act XIX of 1949 enacted by the Composite Madras State, now in force in the Andhra region, which provides for the improvements effected to tanks and recovery of the cost thereof from owners of lands under them irrespective of the size of the tanks or the total costs incurred We consider that this is a very desirable principle. We, however, consider that instead of having a separate Act for this purpose the Act for the levy of Betterment Contribution should be modified suitably by making it applicable to irrigation sources falling under Classes I to IV in the table of water rates recommended by us.
 - 6. We also feel that the provisions for the surrender of land in lieu of betterment contribution and the fixation of the proportion of the land to be surrendered require modification.
 - 7. The proposal of the Board of Revenue was that the provision in the Hyderabad Act allowing a rebate of 10 per cent

if the full amount is paid within six months from the date of the determination of the amount of contribution due should be incorporated in the integrated Act. We agree with the Board's proposal.

- 8. The Board has also recommended that the provisions in section 26-A of the Hyderabad Tenancy Act should be incorporated in the integrated Act permitting the person interested to pay the betterment contribution, and to recover the same from the tenant. We also agree with this proposal.
- 9. We consider, as indicated elsewhere, that drainage improvements should be considered under Land Improvement Schemes as it would be very difficult to evaluate the improvement brought about by a new drainage work. The provision relating to drainage works in section 2 (6) (b) of the Andhra Act may be deleted.

10. In addition, we recommend that-

- (i) Any improvement to sources falling under Classes I, II, III and IV in the table of water rates newly recommended by us which will increase the value of lands should come under the purview of the Act and rules relating to the levy of betterment contribution instead of having a rigid floor of Rs. 1 lakh for the cost of the work for levying the contribution.
- (ii) When a landholder surrenders half the extent of his holding commanded by the source he should be free from any further liability to pay on account of betterment contribution. The Collector, however, will have to see that this concession is not in any way abused and that comparatively inferior land is not offered to the Government. The land that a ryot surrenders should be just as valuable as the land he retains. The land surrendered should be as far as possible, in a compact block. We feel that there may not be many offers of this kind but there may be a few special cases. As the choice is going to be left to the ryot, the ryot who makes the offer can judge for himself and decide whether he can accept this arrangement.
- (iii) Principles which are applied for the levy of betterment contribution should also be applied to fixing the inclusion fee on lands newly included in the ayacut of old irrigation works.

If any particular area has been under irrigation without penalty being levied, continuously for more than five years before the passing of the Act, no betterment contribution or inclusion fees should be levied, and

(iv) Inclusion fee should be charged only for lands under sources of Class III and above as described in the table of irrigation sources and grades of soils recommended by this Committee. The cost of the project should not be taken into consideration for the levy of inclusion fee in the case of old works, but, only the class of the sources as fixed by the Committee should be taken into consideration.

Paragraph 22.—Whether the existing minor irrigation tanks should continue to be in charge of the revenue or transferred to Public Works Department.

In Andhra region, minor irrigation works with an ayacut of 200 acres and less are under the control of the Revenue Department whereas in the Telangana region, only works having an ayacut of 10 acres and less are under the control of the Revenue Department. To secure a uniform system in the maintenance of Minor Irrigation Works throughout the State, the Government in their Order Ms. No. 1979, Revenue, dated 24th October 1958 have ordered that the practice now obtaining in Andhra region with regard to the maintenance of Minor Irrigation sources of having an ayacut of less than 200 acres each should be extended to Telangana region also as soon as possible, and that in the first stage, sources with an ayacut of acres 100 and below which have been brought up to standards and have been restored by Public Works Department should be made over to the Revenue Department with effect from 1st November 1958. One of the chief reasons for recommending the entrustment of the works to the Revenue Department is the fact that the Tahsildar with his many faceted work has greater contact with the ayacutdars and small contractors, than the officers of the Public Works Department who are intended for more important and larger works involving careful designing and technical matters.

2. We are of opinion that the repairs to Minor Irrigation works should be attended to efficiently and promptly. The Government have transferred tanks with an ayacut of 100 acres and less in Telangana to the Revenue Department only

recently. The results may be watched and changes effected as and when necessary.

Paragraph 23.—The Madras Irrigation (Voluntary Cess) Act, 1942—Madras Act XIII of 1941—Its application to Telangana.

The maintenance of irrigation and drainage works in the ryotwari tracts of Andhra region which according to local custom should be attended to by ryots is enforced under the provisions of the Madras Compulsory Labour Act (Kudimaramat Act) of 1858. The Composite Madras Government found the procedure under this Act cumbersome and unpopular and enacted the Madras Irrigation (Voluntary) Cess Act of 1942 to meet these difficulties. This Act provides for the levy of a voluntary cess for the maintenance of irrigation and drainage works of all kinds which are owned and controlled by the State Government and serving ryotwari tracts and also estate areas not taken over by the Government. There is provision in this act for the levy of a cess in lieu of Kudimaramat only when the holders of two-thirds of the land served by the irrigation or drainage work so desire. The provisions of this Act do not affect the rights and obligations of the registered holders of lands served by any work to which the Madras Compulsory Labour (Kudimaramat) Act applies provided that no customary aid shall be requisitioned under section 6 of the said Act during any period in respect of which cess is levied under the Madras Irrigation (Voluntary Cess) Act, 1942.

2. The points to be considered are whether the provisions of this Act require any alteration and whether they have to be extended to Telangana where no similar act is in force. No information is available with the Board of Revenue regarding the number of cases in which this Act was applied. In all probability some cases might have been dealt with by the Collectors at the district level, in view of the fact that the Act was enacted as early as 1942. We consider that there is no point in extending the provisions of the Act unless they have been found in actual working to be feasible and beneficial. In the absence of information from Collectors it is not possible to give our opinion on either of these two points. We, therefore, think it appropriate to leave the matter to the Board of Revenue to examine it and to report to the Government on the need to extend the Act to the Telangana region.

CHAPTER XIV.

Reclassification of soils and re-estimation of yields unnecessary.

Re-survey of particular tracts necessary.

1. (a) Soils—The principles of settlement and soil-classification, in the Andhra region, have been explained in detail, in Chapter III, paragraph 1 of this report, while those in the Telangana region have similarly been explained in Chapter IV, paragraph 1.

An intelligible and systematic classification of soils is an essential pre-requisite for fixing the assessment on land based on its productive power and such classification, to be correct and generally useful, must be founded on a consideration of the nature, composition and properties of the several soils. This is accepted by the systems of settlement, prevailing in Andhra and Telangana. There is a fundamental similarity in the methods followed in both the regions of the State, though, in detail, there is some diversity. The classification already adopted is good enough for fixing assessment. We, therefore, consider that no revision of the classification of soils is now necessary.

2. (b) Re-estimation of yields.—In the Andhra region, the yield from the land forms the basis for giving it a suitable classification and sort, on which is fixed the appropriate rate of assessment. In the Telangana region, the yields of the lands are considered, only to see whether there is justification for enhancement or reduction of the maximum rates. The report of Sri N. Raghavendra Rao shows that the yields adopted at the settlement cannot be said to be accurate. (This relates to the Composite Madras State of which Andhra was a part). The Wet Rate Committee of Hyderabad observed that it was difficult to arrive at a true estimate of the average yield of a crop. The estimates of yields furnished in the answers to the questionnaire vary so considerably that it will be unsafe to come to any general conclusions on their data. We are of the opinion that it is not possible to get a correct idea of the yield. for each class and sort of land now, without conducting elaborate crop-cutting experiments, in different kinds of soils. The cost of such a process will be prohibitive. The present policy of the Government is not to have any resettlements. In view of this also, we consider that a re-estimation of yields is not now necessary.

- 3. (c) Re-survey of lands necessary for an up-to-date revenue registry.—The basis of ryotwari settlement is the direct relationship of the Government with the ryot, who is the owner and cultivator of the land. Changes in ownership arise due to sale, gift or succession. During the original settlement and resettlement, every effort was made to see that the name of the actual owner was entered in the appropriate records. were also made to keep the registry up-to-date by incorporating the changes, as they arose. Detailed instructions have been issued from time to time, prescribing with meticulous detail, the procedure to be followed in effecting the transfers of registry. But in spite of all these orders and in spite of the supervision of the higher officers of the Revenue Department, registry is hopelessly out-of-date, both in Telangana and in Andhra. The Marjorie Banks Committee had taken note of this state of affairs. The Wet Rate Committee of Hyderabad had also taken note of the same. A good survey, detailed plans, F. M. Books and clear demarcation of the boundaries and fields are necessary for the maintenance of Revenue Records and Registration up-to-date.
- 4. Before considering whether a re-survey, in the State, is necessary, it is desirable to know the main principles of survey followed in both the regions of the State.
- 5. Survey, in Andhra region, may be broadly divided into: (1) Topographical, and (2) Revenue or Cadastral. A Revenue or Cadastral survey deals with each individual holding so that necessary particulars may be furnished to the Revenue Department, in order to determine the correct annual assessment, to be paid to the Government. The boundaries of porambokes and other lands belonging to Government are demarcated, thus providing a safeguard against encroachment. Further, every boundary in a Cadastral survey is laid down under the Survey and Boundaries Act. The survey thus acquires legal validity. Before the survey is finalized under the Act, every registered holder is given an opportunity to object to any boundary laid down, which concerns him. Thus a Cadastral survey is beneficial both to the Government and the ryot.
- 6. Individual holdings are clubbed to form survey fields convenient both for survey and maintenance. As wet land contains more holdings than dry land, the average area of a survey field is fixed at 5 acres in wet and 10 acres in dry land,

subject to the provision that when the number of subdivisions exceeds 20, the area of a field should not be less than 2 acres in wet and 4 acres in dry land.

- 7. The main object in forming a survey field is to have holdings demarcated separately but put together in the same unit of a convenient size, so that the fields formed may be laid down on the basis of an accurate frame work which would permit of being maintained conveniently.
- 8. Before the Cadastral survey is undertaken in a village, traverse survey is done. The village boundaries are determined and surveyed with the help of the theodolite and this frame work is divided into sub-circuits or khandams of about 200 acres each in dry and 100 acres each in wet tracts. survey of the khandam is also made with the theodolite. After the plotting of the traverse is completed, the individual fields are fitted into the respective khandams and the village map is then completed. The frame work of the survey field is laid out by means of 'G' lines connecting the field junctions and diagonals to complete the triangles and all bends are off-setted on the respective 'G' lines. This field to field survey is carried out with the chain and cross staff on the diagonal and off-set system. All topographical details such as wells, channels, ponds and tanks are also off-setted and exhibited in the survey records. The field mesaurement book is plotted to scale and the measurements are recorded therein. The survey numbers are plotted with the help of the measurements taken and the area computed with the help of the area square paper and the computing instrument. The area of each fields are plotted with the off-set measurements so recorded with the area of the village calculated on the basis of the traverse measurements.
- 9. In the Telangana region, Traverse survey was not done before Cadastral survey was undertaken because the importance of the former was not realised in the beginning. In some taluks, Traverse survey was taken up long after the Cadastral survey was completed. Consequently their Cadastral survey had to be revised.
- 10. Under the Cadastral survey, in force, in Telangana, a base line called 'Athar' is ranged from one end of the village to the other and off-sets of field bends are measured on it. The fields are plotted with the off-set measurements so recorded

and the area of the field is calculated. The operation is continued till the survey of the entire village is completed. For controlling the survey in the large villages and ensuring the correctness of the maps, a perpendicular is drawn on the base line and connected with hypotenuses. The perpendicular line and the hypotenuses are utilized as subsidiary 'Athars' for measuring the off-sets of bends of fields. The fields are surveyed at initial settlements according to enjoyment but subject to the restriction that each field should not be more than 4 acres in wet and 30 acres in dry. At the time of the revision settlement, sub-division of lands having an area of less than one acre in wet and 8 acres in dry is not usually undertaken.

- 11. The sketch of each field called 'Tippan' is not prepared to scale. Only a rough sketch of every number is drawn and the field measurements are recorded therein. With the help of the offset measurements of bends, the area is mathematically calculated and the map is drawn according to scale. The area calculation book is prepared separately. It is called 'Pukka book'. Unlike, in Andhra, no copy of the field sketch is given to the Patwaris as they are not trained in survey work.
- 12. Thus the system of survey is different in the two regions of the State. The system in the Andhra area, even though it goes into details, is one which the ryots could follow and use in the case of disputes. In Telangana, the records containing the maps and the measurements are a closed book, so far as the ryots are concerned. From the technical point of view also, it is not so easy to replace a missing survey mark in Telangana region or to relay and show a field boundary called 'F' line, whereas in Andhra this could easily be done with the aid of the field sketch.
- 13. Further, the survey and settlement records in Telangana are mostly in Marathi and there is, after the reorganization of States, a dearth of Marathi knowing personnel in the service of Government. It is also stated that in Telangana after the survey was made survey marks have not been planted in several areas. A re-survey of the whole tract in Telangana on the lines followed in Andhra is, therefore, essential. As the work of the survey parties in Andhra region is coming to a close, it may not be difficult to get the services or trained personnel. During the survey, it is possible to secure agreement between enjoyment and registry, as the statutory notices issued to the parties would force them to raise objec-

tions, if any, before the Survey Officer. Further, in the Five-Year Plans, several irrigation projects are now being completed. Unless proper plans of ayacuts are prepared after proper survey and localisation, the period of development would be prolonged. It has been mentioned in Chapter VI of this report, that originally the Nizamsagar project was designed to irrigate 2,75,000 acres. According to the latest decision, the project is to irrigate only 1,04,360 acres of new area in Abi and 62,000 acres in Tabi, besides the old area of 21,055 acres in Abi under old tanks. In the year 1956-57 the area irrigated in Abi is 95,023 acres, and in Tabi 57,701 acres. The above acres, shown under Abi and Tabi are inclusive of 22,164 acres under sugarcane. Hence an area of 13,600 acres remains to be developed, which has not yet been located by the Public Works Department. The Public Works Department is making necessary investigation to locate the said area. The Special Chief Engineer for irrigation, is of opinion that as a period of over 20 years has lapsed since the previous survey and as the previous settlement was not based on the contour maps, it is necessary to relocalise the ayacut, under the project, which is said to have reached the saturation point of irrigation.

- 14. It can thus be seen, that in the absence of proper survey and records as also the absence of boundary marks properly maintained, it has not been possible for the Revenue and Public Works Department officials to know whether, the total area for which the project has been designed, has been actually developed or not, whether clandestine irrigation is going on and whether the development or irrigation is made on proper lines. We consider that there is an absolute necessity for an initial survey of the entire Telangana, on the lines followed in the Andhra region and of the area not recently surveyed by the Government in the Estates of the Andhra region, after the abolition of the Zamindari system and accordingly recommend it strongly.
- 15. The introduction to the Manual of Record of Rights published by the erstwhile Hyderabad State gives the position of the revenue registry as it stands at present, in the Telangana region. It is extracted below for ready reference to stress the need for a fresh survey on the system, in force, in the Andhra region.

"The basic concept of ryotwari tenure is that the Government should deal directly with the cultivators for assessment and collection of Land Revenue. When initial sur-

veys were undertaken the assessment, for different fields was settled with the actual occupants. These were then designated as pattadars and upon them rested the responsibility for payment of the assessment. Each pattadar was a separate Khatedar in the village records. Due to the operation of the laws of succession, partitions and unrestricted transfers of lands. the land became encumbered with several interests. In many cases, the pattadar ceased to be in actual possession of the land. His name, however, continued to be entered in the Revenue Records and the other interested persons had contend themselves with a mere entry of their names and shares in the records. In quite a few cases the occupants who were in actual possession were not shown in the records. Under the Hyderabad Land Revenue Act, the occupant's liability to pay the assessment arose only when the pattadar failed to pay it. In practice, the erstwhile pattadars continued as Khatedars, long after they had ceased to have any material interests in the land. Even where a pattedar had not more than a nominal interest in the land, he was held responsible for the payment of Land Revenue Assessment. It was only on his default, that the Revenue authorities turned their attention to the occupants, whose identity, extents of land held by them, and apportionment of assessments according to their shares, were mysteries, known only to the village officers. This gave to the Village Officers a great scope for sharp practices, as the collection of land revenue depended more upon their private knowledge than the information recorded in village records. No attempt was made to keep the records upto-date. There was some social distinction attached to the position of a 'KHATEDAR' and cases, where Khatedars fondly clung to the shadow, were not a few.

"The revenue records, therefore, very soon ceased to reflect the actual conditions on the spot. Since this defect did not affect the amount of Land Revenue due to Government, no serious attention was given to it. With such defective revenue records the ryotwari tenure deteriorated in practice, and against its very spirit, a few intermediary interests cropped up. These defects became more and more pronounced, as time went on. As a result, the whole position regarding rights in land became shrouded in obscurity. The Government had no information regarding subdivision or sizes of holdings, transfer of land or rural indebtedness. Proper administration of land revenue was not possible in such circumstances.

"It was in this background that the Record of Rights Act of 1346 fasli was passed. The work of preparing a Record of Rights was started in 1936-37 and had been in progress for 18 years. The general approach was that the Record of Rights was to be prepared purely as a Register of Rights in land. The Revenue system remained unchanged and unrelated to In other words the record of rights was not made a Record of Liability. It was treated as a Census Register of Rights in Land, as they existed, at the time of its preparation. Without any care for its maintenance, it was consigned to oblivion soon after it was prepared. The preparation of the record in such manner was of no practical value, either to the land holders or the Government. The scheme did not thus succeed. During the period of 18 years the Record of Rights was prepared in the Diwani areas of five Marathwada districts only and with that speed it would have taken another 20 years to cover the whole area of the State.

"It was real sed in the light of this sad experience that the Record of Rights could be useful to the public and the administration only if it contained reliable and up-to-date information of rights in land and that the record itself could be maintained correctly and up-to-date only if it was made the basis of annual Revenue Accounts.

"The Land Census operations started in 1953 led to a reorientation of the policy regarding the Record of Rights. The object of the census was to collect correct information regarding sizes of holdings, land use, tenancies, rents, fragmentation, etc., for all ownership and cultivation holdings in the State. Based as it was on the old Pattadari rights, the 'pahani-patrika' or other village registers could not be used for the census which aimed at enumerating holdings actually held by land-holder. So, what was needed for the land census was a correct and up-to-date Record of Rights in land. It was therefore decided that the record that was to be prepared for the Census could easily become the record of rights and be used as such in future. Trained staff and adequate funds were available for the Land Census operations. requirement was to ensure proper maintenance in future. was, therefore, decided to combine the Record of Rights work with that of the Land Census. It was also decided to integrate the Record of Rights and Land Census work with the annual Revenue Accounts. To serve the three purposes of common form known as 'Khasra pahani' was evolved and the preparation of a preliminary Record of Rights has now been completed in the entire State along with the Land Census operations. Jamabandi is now being conducted on the basis of occupancy rights. Mutation Rules have been made and the Revenue establishments at the Tahsil and Division level have been strengthened to enable them to cope with the increased work of maintenance of the Record of Rights.

"One great effect of these reforms was to remove the defects which had crept into the ryotwari system. The nominal pattedars and Khatedars have now disappeared from the Revenue Accounts and the Government deals directly with the actual occupants each of them being an independent Khatedar. Proper maintenance will ensure direct relations between the Government and each landholder. Thousands of landholders who were not recorded previously even as his-sadars have now been registered as occupants. Such recognition and certainly of their title have raised their social status and they now really have the pride of owning land. Litigation will be minimized. Such irrigation as will be undertaken would be less expensive and less tortuous.

The Record of Rights envisages a system of public transfers which is rightly described as the greatest legal discovery of the age. The system of public transfers has special benefits in a society where one of the contracting parties is generally unable single-handed to protect his own interests. This is always to be preferred to cumbrous and ambiguously worded conveyances which consequently result in litigation, trouble and waste of time and money.

"The systematic registration of tenancies and the terms upon which the land held by bigger landholders is leased out will afford valuable indications of the incidence of rents and land revenue and will greatly assist the Government in proper regulation of tenancy conditions.

It is of paramount importance that the Government should know how far the cultivators are really in beneficial occupation of the land and how far that occupation is passing into other hands. An up-to-date Record of Rights would give a clear picture regarding this.

"The Record of Rights contains many other details regarding the interests actually subsisting on the land. This information will be advantageous in framing of policies and in assessing their effects. It is always better to put these

facts regularly on record and have them readily available instead of having to institute special inquiries to find out the actual position whenever any need arises. With the implementation of land reforms and enforcement of tenancy laws it is essential that the Government should know the actual conditions on the spot. The Record of Rights meets this great need and has in fact become a necessary adjunct of Land Reforms".

- 16. The Record of Rights was no doubt an improvement, but all the benefits it was expected to confer on the people remained merely on paper, in the absence of a reliable survey of the holding. As an illustration 'A' was entered as having ownership of 'X' acres out of a survey number, 'Y', while the balance belonged to 'B'. When actually dispute arose, no one could know where exactly these acres were located and whether 'X' represents the correct area at all.
- 17. In the matter of Tenancy rights as well, the land owner only reported that the Tenant is the occupant of 'p' acres in a survey No. 'M'. On this basis, the Land Revenue is being collected by the Government and sale value has been received by the landlord. There is now no chance whatsoever of satisfying him of the correct area, save through a fresh survey.
- 18. After the passing of this Regulation in fasli 1358, the Board of Revenue issued instructions to the Collectors to delete the names of the occupiers in Column 13 of the 'Khasara pahani' and to note the names of only the Pattadars in it. This order was issued in May 1957 and this has created a commotion in Nizamabad area among the settlers who came from Krishna and Guntur districts. We heard the plight of these settlers, in detail, when we toured in Nizamabad district. We have also indicated a solution to the problem to the Board of Revenue. It appears that Government have taken a decision in this regard, and are proposing an amendment to section 47 of the Hyderabad Tenancy Act.
- 19. In the Andhra region, prior to 1940, the Revenue Inspectors were made responsible for the maintenance of Survey and Revenue Registry. They had to check-measure the sub-divisions created and submit the record to the Tahsildar for sanction, after scrutiny by a technical staff, maintained only in the Collector's office. Later on, the work was transferred from the Revenue Inspector to the Taluk Surveyor, who is not able to cope with the work. The ryots also do not pay the sub-

division fees and apply for sub-division of portions of survey fields purchased by them. The result is that there are several joint pattas, about which, except the Karnam, nobody knows the real position. Moreover, the ryot himself is not very much interested in getting the registry up-to-date, as the patta is not a deed conferring any title, but merely a statement showing his liabilities of assessment, to be paid to the Government. The Village Officers' Committee have made a recommendation that 'pass books' containing all the details of the S. Nos. owned by each ryot might be given. This document, will have more value than an ordinary patta. At present, the ryot relies only upon the sale deeds to establish his title.

20. The village Karnam is either interested in keeping the registry hopelessly out of date or in any case not interested in bringing it up-to-date. The existence of joint pattas is becoming a source of difficulty, in the collection of Land Revenue. If the village officers so choose, they may collect more from a person who is not liable to pay and collect less from a person who has to pay more. No revenue officer will be able to find fault with them. In some cases they may collect even more than the taxes due from all the joint pattadars together. Unless a Revenue Officer gets all the joint pattadars together and unless sufficient details are given, he will not be able to detect the mischief. The sub-division fees provided for, are still inadequate inspite of the recent enhancement. If there is a duty cast on the karnam to get subdivision measured before sale deeds are registered and if the Sub-Registrars also insist on the production of the relevant sub-division records registration is effected, this state of affairs will be remedied to a large extent. The seller and the purchaser should also mention in the deed of transfer that they have demarcated the portion transfered, by metes and bounds. Before the registration is effected by the Sub-Registrar, he should verify whether it has been mentioned in the deed that the field in question has been demarcated by metes and bounds, that the sub-division fees are collected by him, and that the sketch of the field is filed with the document. Changes in possession, must be intimated through a written document and a copy of the same must be filed with the karnam, within a time, to be prescribed and any failure to do so must be penalised under a statute. Whenever a Karnam observes that a person not registered as an occupant in his account or not entitled to possession, is in possession of any land, the karnam should report the fact to the Tahsildar, who should get the matter enquired into.

- 21. As regards the authority who should be empowered to order transfer of registry, the Revenue Inspectors may be entrusted with the work. He can also get the portions sold, subdivided and incorporate the changes in the records, after the subdivision record is scrutinised by the technical staff, which is available at the rate of one taluk surveyor at each Taluk Headquarters. Such changes should also be entered in the pass-book of concerned ryots. The Revenue Inspectors should be asked to verify the enjoyment during the revenue collections and pass orders on them, then and there. The files relating to each case, in which the Revenue Inspector passes orders transferring the registry, may be sent to the Tahsildar for scrutiny and filing. The Tahsildar could interfere, modify or revise any order passed by a Revenue Inspector, suo motu, or on an appeal, after giving due notice to the parties concerned.
- 22. The orders relating to the mutation of registry are passed, in the Telangana, on a statutory basis, while those in Andhra region, are passed under executive instructions, in the Board's Standing Orders. We are of the opinion that it is necessary to bring all the orders passed in Revenue administration on a statutory basis as it is the procedure in all other States, except Madras (Composite) and that the position that the pattedar is the owner of the land subject to the conditions and terms in the patta should be recognised.

CHAPTER XV.

SUMMARY OF THE RECOMMENDATIONS.

Serial No.

Recommendation.

Reference to the Chapter and Para in the Report.

- 1 Steps may be taken to popularise the practice of green manuring wherever possible.
- IX-1-4

TX-1-3

The demand for green leaf from the forests is mostly a local problem. The ryots may be allowed to gather green leaves from the coupes which are proposed to be auctioned in the next year, so that the defoliation might not affect the growth. If the Forest Department apprehends defoliation and danger, the green leaf manure may be gathered by the Department and sold to villagers at a reasonable price.

Recommendation.

Reference to the Chapter and Para in the Report.

- 3 (i) The ultimate solution should be to grow one's own green manure and to utilise the available green leaf to the maximum extent.
 - (ii) The Forest Department should be liberal in granting permits, by issuing them in lumpsum to Panchayats for distribution among the needy. The removals, however, should be under the strict supervision of the officers of the Forest Department.

IX-1-5

4 (i) The use of good seed is very important and with each variety should be distributed pamphlets containing detailed instructions for growing a good crop therefrom.

IX-2-1

- (ii) Each variety of seed has its own requirements of water and fertilizer, time of planting, spacing and, therefore, seed-rate would be different for each strain. All these details must be worked out, for each improved strain for each area, before seeking to distribute the same.
- (iii) The quantity of fertilizers supplied should be on the basis of the extent of land that a particular ryot owns.
- (iv) There is an urgent need to revise the rules governing the supply of chemical manures on credit and make them applicable to the whole State.
- (v) More scientific talent must be concentrated on the problem of controlling pests and more research carried out, to precisely determine the dosage and time of application, etc. No effort should be spared to make plant protection methods a success.
- (vi) The wooden country plough and the country bullock cart, without either a machined axle or even a ring-oil-bearing or a grease cup, are symbols of the backward-

Reference to the Chapter and Para in the Report.

ness of our agriculture and as long as this continues, so long will production and productivity and, therefore, the taxable capacity will remain at the lowest ebb.

- (vii) Tractors are not being imported but there are operations like reclamation, ploughing, grading, levelling, etc., which can be done well and more economically by tractors alone with appropriate attachments.
- (viii) Indigenous manufacture of pumpsets is not keeping pace with demand and is not even able to maintain quality. It is a wrong policy to allow quality of pumpsets to deteriorate and make farmers suffer; It may be better to subsidize the indigenous industry and enable them to compete with imported material, in quality and workmanship. The Indian Farmer, technically backward as he is, should not be further burdened with less efficient equipment.
- 5 (i) The articles essential to agriculture should be allotted village-wise on the basis of the cultivated land and should remain without sale for atleast six months if there is no demand. This method can be adopted in the case of iron at present.
 - (ii) In the case of fertilizers, the supplies should be kept at Firka levels atleast two months in advance of the sowing season and the necessity for diverting elsewhere should be examined only fifteen days after such date.
 - (iii) There will be need for fertilizers for persons who sow seed late and also those who transplant late. Decentralisation of power, quick movement of stocks to local depots and avoiding delay in fixing prices, might improve the situation.

IX-2-4

Recommendation

Reference to the Chapter and Para in the Report.

IX-2-6

IX-3-3

- 6 (i) In our country, the supply of essential goods to cultivators is so small and the expected demand so unsteady, that trade cannot be expected to do the distribution efficiency. Therefore, for easing the position regarding the supply of essential goods, we recommend the following.
 - (a) The State should provide the supplies of essential goods until trade is able to take over the functions.
 - (b) The quality should be of prescribed standard.
 - (c) The price should be fair to the cultivators.
 - (d) The supply should be timely and adequate.
 - (ii) Farmers cannot be expected to check up these points, by themselves, and the Agricultural Department will have to undertake this job.
 - (iii) The supply agency, therefore, has to be separate from the technical staff.
- 7 While welcoming the Government of India's decision to subsidize all pesticides, we make the following suggestions.
 - (i) A similar subsidy in equipment and liberal import of power-sprayers and dusters is necessary.
 - (ii) Free demonstrations of the use of pesticides is necessary all over the country.
 - (iii) Farmers should be trained on a large scale in plant-protection methods at Government expense.
 - (iv) Organization of pest-warning service is essential.
 - (v) Complete plant-protection at the cost of the State in 2 per cent of the villages to

Reference to the Chapter and Para in the Report.

study the economics and organisation problems and to provide training for plant- protection personnel should be undertaken.

- (vi) The research should continue into the technical and agronomic problems relating to plant-protection.
- (vii) Cultivators must be told that plant-protection equipment is as much a 'must' on their farm as a 'Plough' or a 'Gorru' or a 'Guntaka' and plant-protection is as much their responsibility as any other operation on the farm.
- (viii) State does come in for providing advice and facilities and may come in also with their equipment in grave emergencies when trouble flares up in an epidemic form.
- 8 The following suggestions are recommended for consideration by the Government.
 - (i) The activities of the Agricultural Department which is a technical department depend upon the availability and quality of trained personnel. The department has been in existence for a long time and we can only endorse the views of Shri A. P. Jain with regard to better co-ordination of Research extention and Administration. Recent report of Agricultural Administration Committee of the Government of India deserves speedy acceptance.
 - (ii) The idea to arrange for tours of farmers throughout the State to visit not only agricultural research stations and well-organized farms but also selected areas in the State where cultivation is done in a very efficient manner, is worth a good trial.
 - (iii) The Village Level Workers should take greater interest in agricultural activities.

IX-4-2

Reference to the Chapter and Para in the Report.

They should not stop by merely achieving the targets prescribed for them but should take keen interest in developing modern methods of agriculture by a vigorous campaign in the villages.

- (iv) It is not possible for Agricultural Department by itself, to extend all the technical knowledge that is needed to all the agricultural population. In addition to Agricultural Department, the village level workers, revenue officials, village officers and some others may transmit this to the villagers. To this end, we suggest that agricultural education may be expanded and the trainees may be given preference in recruitment to revenue and other allied departments. Short courses may be run for the village school teacher and the village officer. The ideal to be aimed at is that every employee of the Government coming in touch with the villagers should have a fair knowledge about science and practice of agriculture. बरुपांच तपने
- (v) A technical man should be asked to teach and train a good farmer of a village and others would naturally copy the performance of the trained farmer.
- (vi) The quickest way to upgrade farming is to make every bad farmer, copy a good neighbour. Every attempt must be made to enlist the voluntary services of good farmers in this task of agricultural extension.
- (i) The quality of cattle has been deteriorating very fast with the result that the price of cattle fulfilling certain recognized standards have gone up enormously. This problem should be tackled very quickly and on a very extensive scale. Otherwise, this deterioration of cattle will go on with disastrous results.

IX-5-3

Reference to the Chapter and Para in the Report.

(ii) In order to keep the best bulls out of available stock in the village for service till replaced by better animals, a rapid survey of all the villages, and if that is not possible, rapid collection of information with the help of village officers should be taken up. As a first step some kind of subsidy should be given for keeping them available in the village.

10 (i) It is desirable that rules similar to those in Telangana relating to grazing grounds and lands to be set apart for pasturage should also be made for the Andhra region.

IX-5-9

(ii) We understand that a 'Standing Fodder and Grazing Committee' is being constituted for the State of Andhra Pradesh. The new committee may be constituted at an early date so as to enable it to advise the Government on problems relating to fodder.

IX-5-14

- 11 (i) Forest Department may undertake preparation of hay wherever it is plenty in the forests and make it available to the scarcity areas.
 - (ii) Upgrading of cattle is the quickest way to improve the economic condition of the people in villages.
 - (iii) The deterioration in cattle due to natural causes is far faster than the progress in the reverse direction achieved by all the Governmental and private efforts put together. As time goes on, there will only be a net deterioration. We cannot lay too much emphasis on a plan calculated to stop the rot and make positive gain. To this end the following suggestions are made for consideration by the Government.
 - (a) To consider problems of land with reference to their effect on cattle wealth;

- (b) to intensify research in breeding and management problems of cattle;
- (c) to use private breeders as spearheads of progress;
- (d) to extend concessions where green fodder is grown for cattle;
- (e) to educate people on the economics of having good cattle and looking after them well, and
- (f) to emphasise milk production and improve marketing facilities for milk.
- 12 We recommend to the Government for IX-5-16 making special provision in the matter of foreign exchange for acquiring suitable equipment for artificial insemination in an adequate measure.
- 13 (i) The broker or the buyer in the regulated market does not pay for the sweeping, the market fee and the hammalies. The expenditure on the above items should be shifted to the purchaser and not to the producer.
 - (ii) There is need for having regulated markets in larger numbers all over the State and they should not be confined only to commercial crops but extended to the sale of all agricultural commodities including perishables like vegetables, fruits, milk, eggs, etc.
- 14 Rice is the biggest crop in Andhra area and its exemption from the operation of market laws is wrong. We urge that this be set right and all agricultural commodities brought to market, must be brought under marketing regulation.

IX-6-8

IX-6-7

Serial 1	No. Recommendation.	Reference to the Chapter and Para in the Report.
15	All help and encouragement should be extended by the State to co-operative marketing.	IX-6-9
16	(i) Private trade must be encouraged to compete amongst themselves and as against the growers' co-operative. The traders will thrive if only their profits plus overheads are less than overheads alone of the co-operative marketing societies. Monopoly in trade, whatever may be the agency will work against the interests of the producer.	IX-6-10
	(ii) We suggest a speedy integration of the market ng regulations in the State.	
17	We recommend that the Government have to encourage construction of farm houses and to expand the village sites generally.	IX-7-3
18	The existing credit facilities are absolutely inadequate and they require to be stepped up and the delay in the grant of loans should be minimised.	IX-8-2
19	(i) Joint pattas may be allowed to be turned into individual pattas and sub-division of land may be made promptly.	IX-8-7
	(ii) The pass book recommended by The Village Officers' Enquiry Committee to be given to the ryots should be distributed very early.	
	(iii) Law, governing state and co-operative credit may be integrated early, and	
	(iv) Private money lending may be regulated and encouraged to compete with other forms of State-sponsored credit.	
20	It is in the fitness of things that successive five year plans should emphasise the importance of cottage industries.	IX-9-1

Serial No. Recommendation		Reference to the Chapter and Para in the Report.
21	We think that the Government is already alive to the importance of khadi, handloom, blacksmithy and carpentry and that they will certainly do all in their power to foster them.	IX-9-2
22	Occupations ancillary to crop production may be treated as cottage industries and given due State patronage.	IX-9-3
23	We can encourage mixed farming and add livestock to each farm, so that summer may no longer be a lean season.	IX-9-4
24	In any scheme of things under which State aid is made available, cottage industries like rural housing, etc., must receive a higher priority than the production of consumer goods.	IX-9-8
25	(i) Village Officers if paid a collecting fee, may add to efficiency of loan collections.	IX-10-2
	(ii) Lending by Government out of a revolving fund which is reimbursed by collections would pin point attention on failure to recover the moneys.	
	(iii) In Telangana the village officers must be made to maintain loan registers and out- standings may be entered in pass books the maintenance of which we have supported elsewhere.	
26	(i) Rigorous steps should be taken to collect the arrears of loan instalments when seasonal conditions are fair and ensure that credit is made available for the people who really need them.	IX-10-3
	(ii) The amount allotted by the Government should roll and serve the needs of many and not get locked up as at present.	

Reference to the Chapter and Para in the Report.

- (iii) Only constant demand by the concerned officials at the appropriate time after the harvest will yield good results. Any undue leniency in the matter is certainly not a favour to the ryot.
- (iv) All Government credit to land owners must be channelled through same agency.
- (v) Instalments must be fixed keeping in view the benefits likely to accrue to the borrower, and
- (vi) Collecting staff must bear a relation to volume of lending.
- 27 (i) In view of the rapidly increasing volume and variety of work to village officers with the increasing tempo of planning and developmental activities, it is quite necessary that there should be a suitably trained body of village officers who will be able to respond more efficiently to the needs of a Welfare State. We consider that special training is necessary to the karnams and patwaries and that such training should be at the cost of the Government.

(ii) The period of training need not exceed two months at a time, but it should include the training in survey, the knowledge of Revenue and other rules, the methods of collecting statistics, estimation of crop yields, an elementary course of Veterinary science and practical training in an agricultural farm.

- (iii) We consider that the Board of Revenue must issue a monthly journal of a suitable size containing the latest orders and supply it to all village officers and revenue inspectors direct by post.
- 28 There should be adequate number of Revenue officers to attend to the Revenue

IX-11-1

IX-12-4

Reference to the Chapter and Para in the Report.

work; otherwise there would be loss to the exchequer. It is imperative that the whole set up, should be reorganised to meet the demands of the present concept of the administrative machinery of the Revenue Department and that it should be possible to do so without increasing the cost to the exchequer of the state, if different agencies now working, at village, block, taluk and district levels are integrated, by suitably distributing the load of work and responsibility.

- IX-12-5
- 29 (i) The Collector should continue to be the Chief Civil Administrator of the district and to achieve this end, he should be given an assistant who should be an officer in the run for a Collector's place and who might dispose of most of the administrative and statutory items of revenue work.
 - (ii) The officer may be called joint Collector and should be subordinate to the Collector.

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- (iii) The designation of the Collector of the district might be changed as Civil Administrator.
- 30 (i) The methods of work in the set up should be examined in detail, by a special Committee. The time is now very opportune, as Revenue laws in both the regions of the State are being integrated. Along with integration, the frame work should be modified to suit present day conditions.
 - (ii) The jurisdiction of the Revenue Inspector, Tahsildar and Deputy Collector might be reduced and he should be made responsible for the discharge of various items of Revenue work instead of appointing special officers.

IX-12-7

- (iii) Normally a district should comprise of 4,000 sq. miles and those which are bigger should be bifurcated.
- (iv) The supply of small machines like 'Addressograph', 'Numbering machine', 'Addition and Multiplication instruments', etc., will be much beneficial to the various offices in the state and these will eliminate enormous expenditure spent on the establishment, for routine work.
- 31 The roads, connecting each village to the nearest Public Works Department road, may be aligned according to correct highway principles and the land may be acquired to improve village communications.

IX-13-1

IX-13-2

- 32 (i) Where there is black cotton soil, rubble stone soling may be given and if this much is done by the Government, the work of maintaining the rest of the road in a reasonably good condition may be left to the initiative of the local people.
 - (ii) Funds available under Local Development works and under Community Projects, and National Extension Schemes can be diverted to improve and maintain village
 - (iii) It is very necessary that efforts in the next few years should be concentrated on the correct alignment of roads, so that we may at least have in the next few years a net work of village roads over which at least bullock carts could travel with ease.
- 33 It is necessary that estimates for developmental activities also should be got prepared along with the main estimate for the Irrigation project, so that the development of the ayacut might commence and proceed simultaneously, with the work relating to

IX-14-1

communications.

the construction of the project works, dam, head works and canals. Then only, it would be possible to utilise the benefits of the project from the first year in which water is let out for irrigation. We strongly recommend to the Government to accept Sri J. Raghotham Reddy's suggestions in his note at Appendix 11 and issue suitable instructions to the Chief Engineers and the Administrators, in charge of the executon of the projects.

- The Government may give preference and 34 undertake the construction of drainage improvement works, the cost of which is proposed to be contributed by the public either in full or in a large portion of it, provided that three fourth of the persons who hold not less than two thirds of the area to be benefited, agree voluntarily to pay the contribution. In such cases the Government should waive the collection of betterment contribution. An appropriate method like a referendum of the affected persons should be devised to give a legal sanction for the collection of promised contributions subsequent to construction.
- 35 As there is not much disparity in the rates of assessment of unirrigated dry lands, in the two regions and as they have been standardised recently on the basis of the recommendations in the Taxation Inquiry Commission, 1954 (in Andhra region) we do not recommend any alteration except the abolition of "milewar deductions" in Telangana allowed for the distance of the land from the village. In our opinion, it would be enough, if the dry rates are reviewed and if necessary, revised once in five years on the basis of price fluctuations and other agroeconomic factors. The review and revision may coincide with the Five-Year Plans.

IX-14-2

X-1-4

Serial 1	ło. Recommendation.	Reference to the Chapter and Para in the Report.
36	The calculations to arrive at the dry component of the wet assessment on the wet lands in both the regions of Andhra and Telangana would not involve undue expenditure or labour.	X-1-6
37	(i) The settlement registers of the Andhra region known as Diglotts and the Sethwars of the Telangana region should be rewritten, on a common form through the agency of Revenue and Settlement departments, printed and supplied to the village officers.	X-1-7
	(ii) The proforma of the Diglott register of Andhra may be adopted for the whole State with necessary additional columns to show the new soil grade; class or irrigation source and the corresponding water charges and the dry assessment.	
	(iii) Copies of the Diglott printed in English and Telugu should also be available for sale, to the ryots.	
38	In view of our recommendation to levy water charge and dry assessment separately, the standardized assessment levied on wet lands in the Andhra region and the special assessment levied on wet lands in the Telangana region may be abolished and the relevant Acts passed enhancing water rate and wet assessment may be repealed to that extent.	X-2-3
39	That Andhra Land Revenue (Additional wet- assessment) (Andhra Pradesh Amendment) Act, 1957, may be repealed as according to the recommendation of the Committee, there will not be any lands classified as consolidated wet, in future.	X-2-4
40	(i) In the definitions under the Andhra Pradesh Land Revenue (Surcharge) Act, 1957, 'Land Revenue' may be made to	X-2-7

Reference to the Chapter and Para in the Report.

mean and include water charge also but not the land and education cesses. The Surcharge levied on the land revenue may be revised as follows.—

Amount of land Revenue.

Rate of Surcharge per rupee.

Rs. 50 or less

Nil.

Exceeding Rs. 50 but not

exceeding Rs. 100.

Rs. 0.13 nP.

Exceeding Rs. 100 but not

exceeding Rs. 250.

Rs. 0.25 nP.

Exceeding Rs. 250

Rs. 0.50 nP.

No cesses should be levied on the surcharge imposed.

(ii) The Andhra Pradesh Land Revenue (Surcharge) Act, 1957, may be amended suitably.

X-2-8

41 As the levy of tax on commercial crops, on the basis of acreage is leading to anamolies and inequities, we recommend that the special assessment on commercial crops, now levied may be abolished and that in lieu of it, the rate of purchase tax levied on the products from commercial crops might be suitably increased.

X-2-11

42 The land cess in Andhra and local cess in Telangana are the main sources of income to the local bodies and they should be continued.

X - 2 - 12

43 Education cess is now levied at three annas on a rupee of land revenue in the Andhra, but there is no such tax in the Telangana region. Education cess may be levied in the Telangana region also at the rate of three annas on a rupee of the land revenue payable to the Government and

X-2-13

Seria	l No. Recommendation.	Reference to the Chapter and Para in the Report.
	necessary legislation may be undertaken by the Government to that effect to maintain uniformity.	
44	As the income from the education cess is utilised not only for the benefit of land-owner but also for the non-agriculturists, we are not able to justify its levy only on the landowners. We, therefore, recommend that either a new tax should be levied on the non-agricultural population or the education cess that is now recommended for imposition, in Telangana, should be abolished in the Andhra region also and that every one, including land owners, taxed on a new and uniform basis and the revenue thus derived, utilised for education.	X-2-14
45	As long as the same ryot pays to the same Government for almost the same purpose, it would be convenient and administratively less costly to have one tax instead of many, if it could possibly be helped.	X-3-9
46	Sales Tax cannot serve as an alternative to the existing system of land revenue.	XI-3
47	The existing system of land revenue cannot profitably be replaced by the levy of a tax either as a percentage of rental value or as a percentage of capital value of the land.	XI-6
48	It is neither feasible nor practicable to levy agricultural income-tax, either as an alternative to the existing system of land revenue, or in addition to it.	XI-13
49	The introduction in this State of the sliding scale system, based on annual fluctuations of prices is not recommended.	
50	The fixation of assessment on land should not be as a share of the gross produce.	XII-1-12

Serial .	No. Recommendation.	Reference to the Chapter and Para in the Report.
51	Land Revenue should be fixed as a percentage of the net produce.	XII-2-1
52	The depreciation of cattle and agricultural implements and the cost of maintenance of the cattle should be taken into account and deducted from the gross yield to arrive at the net yield.	XII-2-11
53	As periodical settlements or resettlements are not recommended and as revisions in future will be based on prices and other relevant factors, it is not necessary to give an opinion as to what percentage of the net produce, the share of the Government should be.	XII-2-13
54	In future as the revision of assessments will be on the basis of prices, etc., it is not neces- sary to state whether different percentages should be fixed, for wet and dry lands, as the proper share of the Government towards the land revenue.	XII-3-4
55	Consequent on the abandonment of resettlements, there is need for the Government to review the assessments on the basis of the variations in prices and other relevant factors at short intervals of five years.	XII-4-5
56	The production requirements of agriculture have increased in number and value. The cash income of the ryot has not risen in proportion to rise in prices. The rise in real incomes has been slower still. These are a few of the many relevant factors which should be taken note of at each quinquennial review and revision.	XII-4-6
57	Cost of production studies must be organised by the State in typical areas and for repre- sentative soil and climatic tracts and this data alone will give a clear indication of the trends of incomes in farming, which alone can sustain all taxes on land.	XII-4-7

Serial	No. Recommendation.	Reference to the Chapter and Para in the Report.
58	Refixation or revision of commutation rates is essential for the purpose of revising the assessments periodically and the old theory of fixing commutation rates on the basis of prices in 20 non-famine years, is now out-of-date and should be modified.	XII-4-8
59	The deduction of 15 per cent towards cartage and merchants' profits, from the average of prices over the period of revision is necessary while working out the commutation rates, even in future for the purpose of review and revision.	XII-4-9
60	The Standardized assessments should be reviewed and if need be, revised once in five years and this period may coincide with the periods of future Five-Year Plans.	XII-4-13
61	It is not feasible to take the prices of com- mercial crops into account for fixing the commutation rates for the revision of assess- ments.	XII-5-2
62	The levy of sales tax or purchase tax, affects the ryots, though 'indirectly' and reduces to that extent, the value of the produce sold by him.	XII-6-2
63	There should be one collecting agency to collect the assessment on land from the owner along with the municipal taxes and the municipality or corporation should be the single collecting agency in the municipalities and corporations.	XII-7-6
64	As correspondence is going on between the Government and the Board of Revenue to revise or rationalise the existing rates of ground rent in the Andhra Region or the special assessment levied on agricultural lands put to non-agricultural uses in Telangana, it is not necessary to make any recommendation in this regard except to say,	XII-7-7

Reference to the Chapter and Para in the Report.

that for good farming, it would be necessary that the farmer should have his house in the land itself, the advantages being better supervision and higher production and that in such cases special assessment should not be levied.

- 65 The existing system of land revenue assessment obtaining in the unsettled agency areas should continue, till the hill-tribes reach a stage when they could compete, successfully, with the plains folk; but however, any survey or other steps necessary may be taken for soil-conservation and allied purposes, in areas relating to big projects like Machkund.
- 66 Pending examination of the question of introducing the crop insurance scheme by the economists and what is costs to ryots, it is not possible to make any recommendation in this behalf.
- 67 The existing remission rules in Board's Standing Orders may be extended to Telangana subject to the modifications indicated below:—
 - (i) Every ryot who wishes to claim remission must apply on unstamped paper to a Deputy Tahsildar or Tahsildar before a specified date to be notified by the District Collector in respect of each crop. The District Collector should fix a date for completing inspection. The Deputy Tahsildar or Tahsildar should arrange for the inspection of crop on a date fixed by him which should be intimated to the parties. If inspection is not made before the last date fixed for inspection the presumption is that crop is totally lost or lost to the extent represented in the remission application.

XII-8-9

XII-9-1

XII-9-4

- (ii) In respect of A, B and C class irrigable dry lands, remission should be of both the dry assessment and the water charge.
- (iii) Out-turns should be recorded in terms of imperial maunds or other local weights, per acre, and not in terms of annas.
- (iv) The order regarding the grant or rejection of remission should be passed only after personal inspection either by the Tahsildar or the Deputy Tahsildar and not on the bass of the Revenue Inspector's remarks.
- (v) The reasons for the low yields should be recorded by the Inspecting Officer.
- (vi) For the purpose of granting remission, one acre or a full survey number or a sub-division whichever is less, should be taken as a unit.
- (vii) Remission should be granted in the case of damage to irrigated crops due to insect pests and plant diseases.
- (viii) If the yield of paddy on irrigated land is below three bags or six imperial maunds per acre, it should be treated as a case of total loss of crop.
- (ix) If the yield is five bags of paddy or less but not less than three bags per acre, half remission should be granted. If, however, the remaining half of the assessment and water rate is less than Rs. 8 the amount remitted should be only the assessment which is in excess of Rs. 8.
- (x) Remission for other irrigated crops should be granted considering the yield of each crop. For purpose of granting remission the yield for cholam or jowar is 2 bags or 4 imperial maunds per acre; for cotton 250 lbs. per acre and for groundnut 3 bags

- or 3 imperial maunds per acre. For other irrigated crops one fourth of the normal yield should be taken as a case of total loss of crop and remission granted.
- (xi) In the case of light irrigated crops, the same broad principles suggested for other irrigated crops in item (x) above should be followed.
- (xii) The distinction made in B.S.O. No. 13 (12), in charging for water only in respect of the extents cultivated under the precarious sources in certain districts should be removed and it should be made to apply to precarious sources in all other districts, also.
- (xiii) In the case of unirrigated dry crops when the area affected by bad seasonal conditions, such as drought, heavy rains, floods, etc., is a contiguous tract of not less than 50 square miles, the Collector of the district may order the inspection of fields to estimate the out-turn and grant full remission if the yield is one-fourth the normal yield or less, or half remission, if the yield is half of the normal yield. This concession should also be extended to cases of loss of crop due to insect pests and plant diseases.
- (xiv) In the case of unirrigated dry crops affected by hail-storm, the damage caused need not be over an area of not less than 50 square miles. Remission should be granted for such damage, even in smaller areas, down to individual survey fields, in the manner prescribed in item (xiii) above.
- (xv) In respect of coconut gardens ravaged by cyclones, remission should be granted for a period of three years so as to enable

Reference to the Chapter and Para in the Report

the trees to recoup adequately to yield normal crops. The limit of 50 square miles should not be insisted upon, where the damage is caused by cyclone, floods, etc., and in such cases, remission should be granted even for smaller areas, even down to individual survey fields.

(xvi) The instructions in B.S.Os. No. 13 and 14 should be followed in the entire State as they are exhaustive subject to the above modifications.

68 The suggestion of the Village Officers' Enquiry Committee to issue a pass book to a ryot should be implemented.

XII-10-5

69 An amount of Re. 1 per patta may be collected from each landholder for payment to the karnam to make the entries in the pass book.

XII-10-6

70 The collection of land revenue should commence after Pongal (Sankranthi) festival, as prices of grains will be settled then. The kist months should be altered and collections made in the months of February and March in equal proportions for the demand accruing on kharif and first irrigated crops and in the months of June for the demand accruing on rabi, second and third irrigated crops including the miscellaneous items of revenue, settled during the jamabandi.

XII-10-11

71 In future, the assessment on irrigated land should be fixed on the basis of the dry land potential and the charge for irrigation should be on the basis of a charge, for service, by the Government.

XIII-1-6

Serial No. Recommendation. Reference to the Chapter and Para in the Report 72 The productivity of the soils, the capacity XIII-2-3 of the source based on the duration of supply and the ability of the ryots to bear the charge, are the chief factors which should be considered in determining the charges. 73 In future, the assessment on irrigated land XIII-2-11 should consist of dry assessment depending on the quality of soil and the charge for irrigation, based on the quantum of service rendered by the Government. Eventhough, the income from irrigated land is several times that of dry land, still for the service done, it is not suggested to levy a uniform rate, but graduated rates, related to the soil value of the lands, on which the yields would depend. It is proposed to divide the existing soils XIII-2-12 into four grades as follows: Grade I Superior alluvial soils. Grade II Good soils. Medium soils. Grade III ... Grade IV ... Inferior soils. Soils in Telangana are classified in terms XIII-2-14 75 of wet Bhagannas. In arriving at the dry component of the assessment on these irrigated lands, the 'milewar', which is

irrigated lands, the 'milewar', which is now allowed as a defect for lands, situated at a distance of more than a furlong from the village, will be omitted and the corresponding dry assessment worked out on the basis of Bhagannas, assigned for the wet land.

(i) In future, no land should be registered.

76 (i) In future, no land should be registered as wet, but dry lands should be classified as A, B, C and D to enable the ryot to know the type of irrigation he is entitled to, for growing suitable crops.

- 'A' class dry lands will be those which now stand registered in the revenue accounts as compounded double crop wet lands or double crop wet lands and for which there is an assurance of water supply for raising two heavily-irrigated wet crops or a dofasal crop.
- 'B' class dry lands will be those which now stand registered in the revenue accounts as single crop wet lands and for which there is an assurance of water supply for raising a single heavily-irrigated crop of not more than six months duration.
- 'C' class dry lands will be those which are now included in the light-irrigated zones of projects and for which there is an assurance of water supply for raising one dry crop with light-irrigation.
- 'D' class dry lands will be those which are not entitled to any supply of water but include Manavari, Asmanitari and Kariveda lands.
- (ii) Irrigation of lands falling under classes A, B and C is compulsory and not optional. Eventhough these lands are not irrigated, the land owner has to pay the dry assessment and water charge, unless they are remitted under the rules.
- (iii) There will be no need to prepare water rate accounts as the total of dry assessment and water charge due will be noted in the new Village Settlement Registers to be prepared in the place of present Diglott or Sethwar Registers.
- 77 There should be a change in the principles of classification of the irrigation sources in

the Andhra and Telangana regions. It is proposed to re-classify the irrigation sources as follows:—

Class I.—Major projects and tanks in the ayacut of big projects fed by channels from the projects which supply water throughout the year, except during closure, for repairs.

Class II.—Medium-size projects and tanks in the ayacut of medium-size projects fed by canals from the projects which usually supply water for the first and second crop.

Class III.—River channels and tanks which, not only regularly irrigate more than 200 acres, but also support a 'Tabi' crop on at least 20 per cent of the irrigable area and which can supply water for more than eight months.

Class IV.—Sona, Bila, Kasam or Uppalavatbonda, spring channels and tanks with an irrigable area of 200 acres and more which usually supply water for more than six months but less than eight months.

Class V.—Tanks with an irrigable area of 30 acres and above but below 200 acres which usually supply water for more than three months but less than six months.

Class VI.—Tanks with an irrigable extent of less than 30 acres and which are precarious and supply water usually for less than three months. Only sources of this class will be declared as precarious sources.

78 The charge levied for water should have a relation to the yield, which the ryot receives from his land, by the use of the water.

- (i) The soils of superior fertility should be charged more than inferior lands.
- (ii) Lands under different new projects like Tungabhadra, Bhairavanithippa are being

Reference to the Chapter and Para in the Report.

charged at Rs. 15 per acre, for a single wet crop. It is only fair that alluvial lands which are far superior in fertility should be charged more. Lands which are inferior to regar-learn and red-clay should be charged less.

- (iii) (a) The water rate for raising single wet crops of not more than six months duration should be according to the table recommended by us.
- (b) The charge for irrigating sugarcane should be as follows:—
- (i) Three times the water charge fixed in the table should be charged for 'Adsali' sugarcane of eighteen months' duration.
- (ii) In respect of 'Eksal' sugarcane of eleven months' duration twice the water charge will be charged, only if water is supplied in summer.
- (iii) If, however, the sugarcane is sown with the aid of well water, and water from a Government source is not taken during the months of April, May and June, it should be charged one and half times the appropriate water charge.
- 79 The existing ratios of water charges applied to the irrigation by mutation of wet and dry (systematically and occasionally irrigated) crops in the first and second crop seasons, are moderate and reasonable and the same proportion may be adopted.

80 As regards the charge for the third irrigated crop, now being levied under some sources, for which separate water rates are fixed by the Government, the following rates may be charged.

XIII-2+19

Reference to the Chapter and Para in the Report.

- (i) If the crop raised is green manure or fodder crop, there should be no charge;
- (ii) if irrigation is supplemented by wells, there should be no charge; and
- (iii) if a third crop, whether it is heavy or light irrigation, is exclusively irrigated from a Government source, the charge should be one-fourth of the charge for the first heavily irrigated crop.
- 81 The levy of any water charge is not recommended for the irrigation of 'Mundlavari' crop.

XIII-2-21

82 (i) Betel-vines, plantains, turmeric, elephant-yam, coconut and other crops requiring water for more than six months, should be treated as dofasal crops and charged at one and a half times the charge for the first heavily irrigated crop. XIII-2-22

(ii) Crops like casuarina bamboos and other timber and fuel plantations, if watered for more than six months, the charge should continue to be three-fourths of the water charge. If they are watered for less than six months, the charge should continue to be at half the water charge.

- 83 (i) As regards baling remissions, there should be a distinction depending on the height of the lift. One-fourth baling remission should be granted for a single lift of six feet and below and half baling remission for a lift of above six feet for both heavy and light irrigation, without fixing any maximum limit per acre.
 - (ii) There should be no further registry of lands as 'motasthal' or 'baling wet' and under dorugu and desabandham wells

	623	
Serial .	No. Recommendation.	Reference to the Chapter and Para in the Report.
84	The existing rates for irrigation under drains in the Krishna and Godavari deltas may be continued, but an investigation is necessary whether the water contains injurious salts detrimental to the growth of the crop, in which case a substantial concession would be justified.	XIII-2-24
85	The lands under pumping installations do not enjoy the same advantage and benefit as by direct flow from the source and they should be charged at one-third of the appropriate water charges given in the table.	XIII-2-25
86	Charging the ryot for water supplied for irrigation, on a volumetric basis is not a practical proposition in this State, at present.	XIII-3-4
87	(i) There is an urgent need to stop further indiscriminate expansion of ayacuts, specially under rainfed tanks, unless a detailed investigation of the hydraulic particulars justifies such an expansion or until special improvements to increase the capacity of the tanks are effected.	XIII-4-4
	(ii) Adequate penalties should be imposed if extension of ayacut is objectionable.	
	(iii) If there is surplus water in any particular y_t ar temporary permission may be given for irrigation.	
88	Storage tanks and other similar sources must be made as deep as possible or eva-	XIII-4-5

poration prevented to avoid injury to crops on account of the presence of salts, in solu-

XIII-4-8

89 It is not possible to make any distinction between the water received directly from

the river or anicut and water from a reser-

tion, in large quantities.

30

Serial No.

Recommendation.

Reference to the Chapter and Para in the Report

voir, as it will be difficult to assess the quantum and quality of silt carried and the exact amount of benefit it confers on the crop.

90 The proximity of the land to the source and sluice need not be taken into consideration in assessing water charge as it would lead to complications in the matter of distribution of water.

XIII-5-5

91 (i) Water rates should be levied on the following scales on lands requiring extensive reclamation for raising irrigated crops.

XIII-6-5

Year	Red soils E	Black soils
First year	Nil	Nil
Second year	<u>}</u>	Nil
Third year	1 2	Nil
Fourth year		1
Fifth year	Full	1/2
Sixth year		Full

- (ii) The above concessions should be adopted from the time when the water is made available to the ryot at his field and not from the year when the dam is completed and water is let into the main canals.
- (iii) With the above modification, the proposals submitted by the Board of Revenue for the integration of laws relating to the levy of compulsory water cess, in force in Andhra and Telangana, are recommended.
- 92 (i) The provision of adequate drainage facilities is just as important as the problem of providing irrigation and should be tackled by the Government with equal zeal.

XIII-7-4

(ii) The drainage works may be taken up as land improvement works and the cost, partly recovered from the beneficiaries, the Gov-

Reference to the Chapter and Para in the Report.

ernment paying only a portion of the cost. There are always indirect revenues flowing from increased production and these would justify the State's contribution, in part.

93 The liberalization of the procedure for obtaining permission, for the construction of private kuntas will tend to increase food production.

XIII-8-2

- (i) Prior permission of the Collector is necessary for the construction of a private tank.
- (ii) Water must be for the grantees' own use.
- (iii) Submerged area and ayacut must belong to the same person.
- (iv) The irrigated extent should not exceed fifteen acres.
- (v) Collectors should examine the question whether the interests of others are materially affected before granting permission.
- (vi) Bunds put up to intercept merely the surface flow, for providing irrigation for lands below should not be charged, if the area irrigated is below three acres and no permission is necessary for putting up a bund. The quantity of water that will be intercepted by the bunds will not be much and in all probability would be lost by evaporation and percolation, if it is not intercepted.
- (vii) Dry assessment should be levied for the area occupied by the bund and the submerged area.
- (viii) Only dry assessment should be charged on the area irrigated in each of the above cases.

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Recommendation.

Reference to the Chapter and Para in the Report.

- (ix) The above recommendations would not apply to the cases of permission already granted. But the concession regarding assessment will apply unless payment of assessment is one of the conditions under which permission was granted.
- (i) Dry assessment plus appropriate water rate should be charged for lands in Andhra which are now charged under B.S.O. No. 6
 (5) and for lands in Telangana which are now charged under Rules 37 (1) (a), 37 (1)
 (b) and 37 (1) (c) and 2 of the Hyderabad Land Revenue Rules.
 - (ii) No distinction need be made between the wells in the ayacut and those outside it and it will be reasonable, if the appropriate dry assessment alone and not water charge is collected for such irrigation.
 - (iii) No separate class need be assigned to the poramboke wells and no charge need be made for irrigation under these wells situated in poramboke lands and constructed even after 20th August 1884.
- 95 All wells in the ayacut of Government irrigation sources in Telangana should be treated as private wells just as it is done in the case of wells outside the ayacut and all concessions applicable to the latter should be extended for these wells also. No highest dry assessment need be charged in such cases.
- 96 The provisions in Rule 67 (1) and (2) of the Hyderabad Land Revenue Rules should apply to the entire State.
- 97 (i) If a heavily irrigated crop is raised successfully by percolation and without a well, there should be a charge for water as though

XIII-9-4

XIII-9-5

XIII-9-6

XIII-10-6

Reference to the Chapter and Para in the Report.

the irrigation is from a regular source. The irrigation of dry crops by percolation should not be charged.

- (ii) If a dry land is irrigated by a well situated in private land which receives supply by percolation, such irrigation should not be charged as it is very difficult to estimate the quantum of percolation from the canal or tank and from the natural springs.
- (iii) No well should be allowed to be excavated within the boundary of the canal or tank bund and where this is not demarcated within twenty-five feet of the outer toe of such bund.
- 98 (i) It will be appropriate, if river channels and parrekalwas or river spring channels are included under Class III of the table of water rates and that Sonas, Bilas, Kasams, Uppalavatbonda and spring channels which consist of sub-artesian spring ponds are included in Class IV of the table.
 - (ii) The open mouth river channels which involve some contribution by ryots by way of labour to divert water by forming Korombo, should be charged half of the water rates proposed under Class III of the sources and the parrekalwas or river spring channels which require constant labour to maintain regular flow should be charged one-third of the water rates proposed under the same class.
- 99 (i) All minor irrigation tanks should be adequately repaired and restored.
 - (ii) Further extension of ayacuts under irrigation sources should be stopped unless the capacity of the tank is increased by special repairs or unless the existing capacity itself warrants such an extension;

XIII-11-7

Reference to the Chapter and Para in the Report.

- (iii) Instead of converting the lands, for which water cannot be supplied for raising paddy, into dry, the ayacut can be split up, whenever possible into B class and C class dry lands after giving notice of the proposal to the owners and hearing their objections:
- (iv) Whenever ayacuts are fixed either after the construction of a new tank or the completion of repairs to an old tank, the area should be localized, and properly demarcated so as to avoid haphazard development and future trouble.
- 100 It will be expedient that tanks with an ayacut of 50 acres or below but not forming part of a chain of tanks might be transferred to the control of irrigation panchayats, which should consist of the ayacutdars of the source, as its members, subject to the payment of 75 per cent of the total of dry assessments and water charges on lands already included in the ayacut of the said source subject to the following further conditions:—
 - (i) that Public Works Department should bring up the tanks to the required standards before handing them over to the panchayats;
 - (ii) that the capacity of the tank should not be increased. (Standards should not be interfered with);
 - (iii) that dry lands in the periphery of the ayacut of the tank could be irrigated with tank water only at the risk and hazard of the ayacutdars;
 - (iv) that dry assessments should continue to be paid on all dry lands irrigated with tank water; and
 - (v) that no remission would be granted for failure of crops, for reasons which are not

XIII-13-5

Reference to the Chapter and Para in the Report.

beyond the control of the ryots except in the case of wide spread drought affecting the tract as a whole.

101 The normal repairs to small irrigation sources with an ayacut of 50 acres or less but not forming, a part of a chain of tanks may be entrusted to Irrigation Panchayats consisting of ayacutdars of those sources as these works do not generally require any technical skill and the Public Works Department or the Minor Irrigation staff can render such technical help as is found necessary, free of any charge.

XIII-13-8

102 (i) Irrigation by direct pumping from rivers and streams may be permitted liberally with the previous sanction of the Collectors who may obtain, if necessary, technical advice.

XIII-14-3

- (ii) A small licence fee at the rate of one rupee per horse power of the engine per annum may be levied to preserve the right of the Government to the water.
- (iii) In all other cases, where power is not utilized for lifting, Government may fix a nominal licence fee.
- (iv) Irrigation by direct pumping from irrigation canals should not be permitted except when there is obvious surplus and the area so irrigated should be charged at one-third of the normal water rate and also subject to the condition that the rights of the registered ayacutdars are not affected. For this purpose, any other person who had obtained prior permission for pumping in similar manner will not be considered to be an ayacutdar.

Reference to the Chapter and Para in the Report.

Till now no clear cut distinction has been made between irregular irrigation and unauthorized irrigation. A clear cut distinction has to be made as indicated below:—

XIII-15-6

- (i) The term 'Irregular irrigation', has to cover all cases of water taken or used for any land in a manner involving some unauthorized interference with an irrigation or drainage work, such as cross bunding a channel, making a cut or hole in the bund, opening or breaking a sluice, changing a pipe or altering the position of a pipe.
 - (ii) The term unauthorized irrigation should be applicable to cases of water taken or used for any land contrary to the orders of any authority competent to give such orders.
 - (iii) First, a warning should be given to the ryots that heavy penalties would be imposed if a ryot takes water without permission.
 - (iv) Where there is a breach caused as a result of flood or other natural causes, it should be reported to the authorities by the ryots concerned. If no such report is made with in a reasonable time, it should be presumed that it has been caused by the ryots who irrigate their lands by means of water through the breach and all irrigation under it should be heavily penalized. Steps should be taken to legislate to this effect
 - 104 The following schedule should be adopted for the levy of penal water charge which includes the charge for water also for irregular and unauthorized irrigation from the Government source of work.

XIII-15-7

	Nomban of cassales	For	
	Number of occasion	Irregular irrigation	Unauthorised irrigation
(i) O1	n the first occasion .	. Three times the water charge.	Three times the water charge.
(ii) Oi	n the second occasion	Six times the water charge.	Six times the water charge.
(iii) Oi	n the third occasion .	. Twelve times the water charge.	Twelve times the water charge.
	the fourth or any subsequent occasion.	Twenty times the water charge.	Twenty times the water charge.
		Note.—The officer levying the penal water charge for irregular irrigation has no discretion to remit any portion of it.	Note.—The Officer levying the penal water charge may, at his discretion, remit any portion of the enhanced water cess in deserving cases to not less than one rate.
Serial	No.	Recommendation.	Reference to the Chapter and Para in the Report.
105	areas, each cas merits, whether retained, due views of the ayin the foreshold adversely. In cashill have to be retained the w	rainfed tanks in the e should be decided they should be breaked weight being given vacutdars and also there who may be ase of abandonment, assigned for cultivated the charge for land raded to that under the should be as a second to that a second to the s	on its ached or to the ne ryots affected the bed tion. If s under
106	continuous imp	ing to supply of wa rovement of the cr engage the attentior lopment Board.	opping-
107	can be produced	lantity of water, mo I through light irriga an by paddy. This i	ited dry

Reference to the Chapter and Para in the Report.

kept in view and suitable cropping-pattern evolved for each area.

108 A cropping-pattern, similar to the one evolved for the Tungabhadra Project, will be necessary for the Nagarjunasagar Project also, under which there will be heavy and light irrigation zones.

XIII-17-5

109 The Agricultural Department should study and find solutions to the problems of the ryots in areas which are saline or are difficult to work.

XIII-18-3

110 The revision of the schedules of water rates to be levied on red and black soils spread over a period of 5 and 6 years respectively has been recommended, from the time the water is made available to the ryot at his field, when effective potential is said to have been created and not from the time when the head-works are completed and water is let into the main canals. The creation of such effective potential and the provision of concession spread over a period of 5 to 6 years will accelerate the development of the ayacut.

XIII-18-4

111 It is not desirable to transfer the maintenance of distributaries to the ayacutdars, just at present. The maintenance of minor distributaries supplying water to small blocks of 150 to 200 acres, may be handed over to the ryots in the ayacut if there are responsible people who can co-operate with each other.

XIII-19-3

of water charge within our State and the charging of rates should be in accordance with the table recommended by us.

XIII-20-4

(ii) It is not possible to have parity or uniformity in the levy of water charge on

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Serial .	No. Recommendation.	Reference to the Chapter and Para in the Report.
	sources in other States irrigating lands in this State and vice versa.	
113	Instead of having a separate Act like the Madras Tank Improvement Act (XIX of 1949) the Act for levy of betterment contribution should be amended suitably by making it applicable to irrigation sources falling under Classes I to IV in the table of water rates.	XIII-21-5
114	The provision in the Hyderabad Act allowing a rebate of 10 per cent, if the full amount is paid within six months from the date of determination of the amount of contribution, should be incorporated in the integrated Act as proposed by the Board of Revenue.	XIII-21- 7
115	The provisions in section 26-A of the Hyderabad Tenancy Act should be incorporated in the integrated Act permitting the person interested to pay the betterment contribution and to recover the same from the tenant as proposed by the Board of Revenue.	XIII-21-8
116	The drainage improvements should be considered under Land Improvement Schemes as it would be very difficult to evaluate the improvement brought about by new drainage work and the provision relating to drainage works in section 2 (6) (b) of the Andhra Act may be deleted.	XIII-21-9
117	(i) Any improvement to sources falling under Classes I, II, III and IV, in the table of water rates which will increase the value of the lands, should come under the purview of the Act and Rules relating to the levy of betterment contribution, instead of having a rigid floor of rupees one lakh for the cost of the work, for levying the contribution.	XIII-21-10

Reference to the Chapter and Para in the Report.

- (ii) When a land holder surrenders half the extent of the holding commanded by the source, he should be free from any further liability to pay on account of betterment contribution. The land that a ryot surrenders should be just as valuable, as the land he retains. The land surrendered should be, as far as possible, in compact block. There may not be many offers of this kind but there may be a few special cases. As the choice is going to be left to the ryot, the ryot who makes the offer can judge for himself and decide whether he can accept this arrangement.
- (iii) Principles which are applied for the levy of betterment contribution should also be applied for fixing the inclusion fee on lands newly included in the ayacut of old irrigation works. If any particular area has been under irrigation, without penalty being levied, continuously for more than five years, before the passing of the Act, no betterment contribution or inclusion fee should be levied.
- (iv) Inclusion fee should be charged only for lands under sources of Class III and above, as described in the table of irrigation sources and grades of soils. The cost of the project should not be taken into consideration for the levy of inclusion fee in the case of old works but only the class of the sources should be taken into consideration.
- 118 The repairs to Minor Irrigation Works should be attended to efficiently and promptly. The Government have transferred tanks with an ayacut of 100 acres and less in Telangana to the Revenue Department recently. The results may be watched and changes effected as and when necessary.

Serial No.

Recommendation

Reference to the Chapter and Para in the Report.

There is no point in extending the provisions of the Madras Irrigation (Voluntary Cess) Act, 1942 to Telangana unless they have been found in actual working to be feasible and beneficial. In the absence of information from the Board and Collectors on these points, it is not possible to give an opinion. It is, therefore, appropriate to leave the matter to the Board of Revenue to examine it and report to the Government on the need to extend the Act to the Telangana region.

XIII-23-2

120 The classification of soils already adopted in Andhra and Telangana is good enough for fixing assessments and the revision of the classification of soils is not now necessary.

XIV-1

121 It is not possible now to get a correct idea of the yield for each class and sort of land without conducting elaborate crop-cutting experiments, in different kinds of soils. The cost of such a process will be prohibitive. The present policy of the Government is not to have any resettlements. In view of this also a re-estimation of yields is not necessary.

XIV-2

There is an absolute necessity for an initial survey of the entire Telangana region on the lines followed in the Andhra region and of the area not recently surveyed by the Government in the estates of Andhra region after abolition of the zamindari system, to bring revenue registry and enjoyment upto-date and to accelerate the localization and development of the ayacuts under new projects.

XIV-4

123 (i) If there is a duty cast on the karnam, to get sub-division measured before sale deeds are registered and if the Sub-Registrars

XIV-20

also insist on the production of the relevant sub-division records before the registration of the deed of transfer is effected, the present state of affairs will be remedied to a large extent.

- (ii) Changes in possession must be intimated through a written document and a copy of the same must be filed with the karnam, within a prescribed period, and any failure to do so must be penalized, under a Statute.
- (iii) Whenever a karnam observes that a person not registered as an occupant in his account or not entitled to possession, is in possession of any land, he should report the fact to the Tahsildar who should get the matter enquired into.
- 124 (i) The Revenue Inspectors may be empowered to order transfer of registry.
 - (ii) The Revenue Inspectors can also get the portions sold sub-divided and incorporate the changes in the records after the sub-division record is scrutinized by the technical staff, which is available at the rate of one Taluk Surveyor at each Taluk head-quarters. Such changes should also be entered in the Pass Book of the ryots.
 - (iii) The Revenue Inspectors should be asked to verify the enjoyment during the revenue collections and pass orders then and there.
 - (iv) The files relating to each case, in which the Revenue Inspector passes orders transferring the registry, may be sent to the Tahsildar for scrutiny and filing. The Tahsildar could interfere and modify or revise any order passed by a Revenue Inspector

XIV-21

Serial No.

Recommendation.

Reference to the Chapter and Para in the Report.

either suo-motu or on an appeal, after giving due notice to the parties concerned.

125 It is necessary to bring all the orders passed in Revenue administration on a statutory basis as it is the procedure in all other States except Madras (composite) and the position that the pattadar is the owner of the land subject to the conditions and terms in the patta, should be recognized.

XIV-22

K. N. ANANTA RAMAN, Chairman.

D. BASAVA RAJU, Secretary.

H. SITARAMA REDDY,

C. VIVEKANANDA MURTY,

D. V. RAO,

J. RAGHOTHAM REDDY,

Members.

^{*} Supplemental note signed and given by the members, Sri J. Raghotham Reddy, Sri H. Sitarama Reddy and Sri D. V. Rao on 26th January 1959 is appended.



LAND REVENUE REFORMS COMMITTEE PART II—Volume (iv)

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APPENDICES

APPENDIX 1.

(Vide paragraph 1 of the report.)

Copy of G.O. Ms. No. 2417 (Revenue Department), dated 23rd December, 1957

Subject:—Land Revenue—Examination of Land Revenue assessments and Irrigation charges—constitution of committee—ordered.

ORDER:

There are wide disparities in the pitch of land revenue assessments and irrigation rates in the different regions of the State. These have arisen partly due to the adoption of different methods of levy in different tracts at different times. The Government have, therefore, decided to appoint a Committee to examine the existing systems and rates of land revenue assessments and irrigation charges obtaining in the various regions of the State and to make suitable recommendations for their rationalization. They accordingly set up the following Committee:—

Chairman:

Sri K. N. Anantharaman, I.C.S.,

Members:

- 1. Sri. H. Sitarama Reddy, Halaharvi-Alur taluk, Kurnool district.
- 2. Sri. C. Vivekanandamurthy, Retired Chairman, Andhra Pradesh Public Service Commission, Kakinada.
- 3. Sri D. V. Rao, B.Sc. (London), M.I.E., Retired Chief Engineer, Hyderabad.
- 4. Sri J. Raghotham Reddy, Hyderabad.
- 2. Sri K. N. Anantharaman, I.C.S., will be in whole time charge of the duties of the Chairman of the Committee.
 - 3. Sri D. Basavaraju, I.A.S., will act as Secretary of the Committee.
 - 4. The Committee is requested:
- (1) to examine the principles and methods of levy of land revenue assessments followed in the various regions of the State and make recommendations for their rationalization;
- (2) to examine the rates of assessment levied in respect of different classes of land in the various regions of the State and to make suggestions for their revision, in the light of its recommendations under item (1) above, with a view to reduce inequities in their incidence;
- (3) to take account of the principles and methods followed in the various regions of the State in regard to the levy of charges for irrigation of lands under various sources of irrigation and make recommendations for their rationalization;

- (4) to examine the rates of irrigation charges levied in respect of various classes of crops under different sources of irrigation in the various regions of the State and to make suggestions for their revision, in the light of its recommendations under item (3) above;
- (5) to examine all other matters incidental to the levy of land revenue assessment and irrigation charges and make appropriate recommendations thereon.
 - 5. The Committee is requested to submit its report within one year.
- 6. The Committee will have its headquarters at Hyderabad but may undertake tours throughout the State of Andhra Pradesh. The Committee shall be treated for the purposes of T.A. as a First Class Committee. The Secretary of the Committee will be the Controlling Officer for the purpose of signing the T.A. Bills of the Members of the Committee.
- 7. The expenditure should be debited to "25. General Administration— J. Civil Secretariat—C. Revenue Secretariat".
- 8. The Board of Revenue and all the Collectors are requested to furnish to the Committee any material the committee may require from time to time in connection with the preparation of their report.

M. T. RAJU, Secretary to Government.

Copy of G.O. Ms. No. 2386, dated the 29th December, 1958.

Subject:—Land Revenue Reforms Committee—Committee and Establishment—Continuance—Sanctioned.

Reference: -G.O. Ms. No. 2417, Revenue, dated 23-12-1957.

ORDER:

In Paragraph 5 of the G. O. first read above, the Land Revenue Reforms Committee was requested to submit its report within one year. In partial modification of these orders, the Committee is now requested to submit its report by the end of January, 1959.

RAM LAL, Secretary to Government.

APPENDIX 2.

Questionnaire of the

Land Revenue Reforms Committee, Andhra Pradesh.

Chairman: Sri K. N. Anantharaman, I.C.S.

Members: 1. Sri H. Sitarama Reddy, Former Revenue Minister of Composite Madras State, Halaharvi, Alur Taluq, Kurnool District.

- 2. Sri D. V. Rao, B.SC. (Lond.), M.I.E., Retired Chief Engineer, (P.W.D.), Hyderabad.
- 3. Sri C. Vivekananda Murthy, I.A.S. (Retd.), Retired Chairman, Andhra Pradesh Public Service Commission, Kakinada.
- 4. Srì J. Raghotham Reddy, Vice-President, Hyderabad Farmers' Union, Hyderabad.

Secretary: Sri D. Basava Raju, I.A.S.

As there are wide disparities in the pitch of Land Revenue assessments and irrigation charges in the different regions of the State, which have arisen partly due to the adoption of different methods of levy in different tracts and at different times, the Government in G.O. Ms. No. 2417, Revenue, dated 23-12-1957 appointed a Committee to examine the existing systems and rates of land revenue assessments and irrigation charges obtaining in the various regions of the State and to make suitable recommendations for their rationalisation.

In the terms of reference the Committee has been requested—

- (1) to examine the principles and methods of levy of land revenue assessments followed in the various regions of the State and make recommendations for their rationalisation;
- (2) to examine the rates of assessment levied in respect of different classes of land in the various regions of the State and to make suggestions for their revision, in the light of its recommendations under item (1) above, with a view to reduce inequities in their incidence;
- (3) to take account of the principles and methods followed in the various regions of the State in regard to the levy of charges for irrigation of lands under various sources of irrigation and make recommendations for their rationalisation;
- (4) to examine the rates of irrigation charges levied in respect of various classes of crops under different sources of irrigation in the various regions of the State and to make suggestions for their revision, in the light of its recommendations under item (3) above; and
- (5) to examine all other matters incidental to the levy of land revenue assessment and irrigation charges and make appropriate recommendations thereon.

After examining the systems of settlement, in force, in both the regions of the State and also ascertaining the current problems relating to land tenures, irrigation and agriculture, by touring in two typical districts in each of the two regions of the State, the Committee issues the following questionnaire for eliciting all the information relevant to the enquiry. The questionnaire is published for the information of the public. All persons, institutions and associations interested in

evolving a rationalised system suitable for both the regions, for the levy of land revenue assessments and charges for irrigation, are requested to answer the questions, in the questionnaire, and to send it to the Secretary of the Committee, as early as possible and not later than 15-6-1958. The Persons, Associations and Institutions interested are requested to answer as many of the questions as possible and also express opinions in the form of a note in respect of points not mentioned in the questionnaire but which, they consider, have a bearing on the matters covered by the terms of reference.

The Committee looks forward to the public with confidence, for their valuable suggestions to solve the problems referred to the Committee.

Copies of the questionnaire may be obtained on application from the Secretary or the Collector of the district.

D. BASAVA RAJU, Secretary.



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Profession:

Full address of the person, etc.,:

PART I DETAILS OF THE PERSONAL HOLDING

- Q. No. 1.—Do you hold land as a Pattadar, Inamdar or Landholder as defined in the Estates Land Act, 1908 or otherwise in the Andhra Area and Pattadar, Bi'maqtadar, Hissedar, Shikmidar, Protected Tenant or Tenant or otherwise in the Telangana area?
- Q. No. 2.—Please give information as per the following pro forma in respect of your lands:

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Details of	water rate, land cess, etc., paid.	(8)	
Rate of asses-	acre.	(I)	
Class and sort, in	black, cotton or red chalka soils in Telangana region.	(9)	
Wet (with name and nature of irrigation		(5)	
Extent.	Acres or guntas.	(4)	নক্ষমৰ সম্বন
Survey	or number and sub- division.	(3)	
Ryotwari,	private land of a landholder or inam estate.	(2)	
Name of the	and district.	(1)	

Remarks.	(14)	
No. of permanent farm servants with details of pay in cash and kind, etc.	(13)	·
No. of cattle owned with costs— (a) work animals (b) milch cattle (c) sheep, and (d) goats.	(12)	
No. of wells or private tanks in each survey number or sub-division and the means adopted to lift water for irrigation by picottah yetham, mota or engine worked by diesel oil or electricity.	(11)	स्ट्रियंच नयते
Details of the years in which remissions were granted of— (1) Assessment and (2) Water rate with reasons.	(10)	
Crops usually grown in each survey number or sub-division, including the catch crops and green manure crop raised.	(6)	

- Q. No. 3.—If the lands are situated in an estate or jagir, abolished and taken over by the Government, the details of the rents paid to the landholder, inamdar or jagirdar on each holding or subdivision may be given along with the reduced rents paid to the Government after the abolition of the estates or jagirs. If settlement rates have since been introduced, please state the total assessment fixed for your holding?
- Q. No. 4.—Are your lands irrigated for growing single or double wet crops? Are they charged consolidated wet assessment or dry assessment and water rate, separately? What are the rates of water-cess or faslijasti levied?
- Q. No. 5.—(a) What is the market value of different types of agricultural lands in your area?
- (b) Can the values stated in registered sale deeds be taken as correct?
- (c) If not how could correct values be determined?

PART II

COSTS OF CULTIVATION AND ECONOMICS OF FARMING

- Q. No. 1.—What are the single wet, double (dofasal) wet crops, irrigated dry crops, garden crops (Baghat), catch crops and manure crops which you grow in your lands?
- Q. No. 2.—What are the rotations of crops followed in your area for:
 - (a) Wet lands,
 - (b) Alluvial Soils,
 - (c) Black Cotton Soils,
 - (d) Red Chalka,
- (e) Land irrigated under wells by lift irrigation,
- (f) Land under light irrigation (by gravitational flow),
 - (g) Lands irrigated under spring channels.

Note.—Please state with reference to each type of land situated in your area whether it is 2, 3, 4 or 5 year-rotation. If rotation on your land is different from the standard rotation in the area, please give the rotation you follow and state reasons for the deviation.

- Q. No. 3.—Please give details of the cost of cultivation, land revenue assessment, water-rate, land cess and tax paid under:
- (1) The Andhra Pradesh Commercial Crops (Assessment) Act, 1957,
- (2) The Andhra Pradesh Land Revenue (Surcharge) Act, 1957,
- (3) The Andhra Land Revenue (Additional Wet Assessment) (Andhra Pradesh Amendment) Act, 1957, and
- (4) The Andhra Land Revenue Assessment (Standardisation) Act, 1956, separately and yields in respect of the best and average crop (the following form may be used) giving values of yields at the prevailing market prices. The yields themselves may be given in terms of Imperial maunds and seers of 80 tolas:

Note.—One form may be filled up for each crop grown by the individual or the institution answering the questionnaire.

Please also give the statement of cost of cultivation for fodder crops, green manure crops, catch crops and mixed crops: Please include the value of the manual labour contributed by the members of the family at current rates.

Cost of labour may be stated as per rates at which it is actually paid. The unit for preparing the statement may be taken at the discretion of the cultivator as one acre or the area actually sown of each crop.

(In each one of the operations please state whether the operations are done by permanently employed labour or labour engaged on daily wages or on piece work basis).

	In kind with the cash value noted below.	In cash.	Total.	Re- marks
(1)	(2)	(3)	(4)	(5)
(a) Preparatory cultivation: Ploughing.				
(b) Sowing: Seed rate, dibbling, drilling, broadcasting or transplanting. (In case of transplanting give separate figures for nursery).				
 (c) Weeding: Please mention the estimated cost of animal power and manual labour separately giving the number of men engaged with rates of wages. In case labour is paid on piece-work basis, please mention the conditions. (d) Manuring: Cattle manure, compost, sheep penning, carting of silt, application of green leaf, growing of green manure in situ or application of fertilisers both as basic dose or as top dressing. (Please give cost, time and method of each application.) 	र्था नवनं पव नवनं			
 (e) Irrigation: Method (whether by gravitational flow from a Government source or from a well by means of a lift). (Please give irrigation rate in the former case and cost of lifting water in the latter case). (f) After care: The distribution of water, scar- 				

		In kind with the cash value noted below.	In cash.	Total.	Re- marks.
	(1)	(2)	(3)	(4)	(5)
	(g) Plant protection:				
	Mention the various insect pests or diseases that affected the crop. State the cost of protection measures you have adopted. What is the estimated damage caused in spite of the protective measures?				
	(h) Harvesting: Methods and the cost.				
	(i) Threshing:				
	Methods: Hand-threshing or by means of cattle. Cost of the same, and				
	(j) Transporting to the farm storage.				
2.	(a) Total yield of crop in Imperial maunds and seers and its cash value.	विनयन			
	(b) Total cash value of subsidiary produce like straw.				

- Q. No. 4.—What are the prevailing rates for casual labour (male and female) for ploughing, transplanting, weeding, harvesting and threshing, etc., and piece-work rates for operations such as transplanting, weeding, "earthing up sugarcane", harvesting, threshing of different crops and stacking straw or stalks, etc.?
- Q. No. 5.—What is the usual pay for farm servants who are employed on an annual basis?

Note.—Pay (1) with food and (2) without food may also be stated

- Q. No. 6.—Are there any special problems with regard to recruitment and availability of (a) casual labour (b) annual labour?
- Q. No. 7.—What is the cost of a pair of bullocks in your area? Give the cost of maintaining them and the average period for which they serve?
- Q. No. 8.—(a) What are the agricultural implements that are needed for cultivation in your area?
- (b) What is the cost of the implements and their normal life?
- Q. No. 9.—(a) What are different methods of lifting or baling water for irrigation, in use, in your area?
- (b) what is the cost of lifting or baling water per acre of wet and irrigated dry crops?
- (c) What is the concession or baling-remission' allowed for lifting water in your area?
- (d) Do you consider that the concession is adequate or do you suggest any modification?

Q. No. 10.—Are any of your lands irrigated under a channel by cross-bunding and turn system?

If so, what is the procedure adopted in raising the bunds or in removing them?

What is the average cost per acre in raising and removing the bunds?

Q. No. 11.—What is the average cost per acre, of labour engaged or contributed for the excavation of spring channels in river beds?

PART III

PRINCIPLES OF LAND REVENUE ASSESSMENT

- Q. No. 1.—What do you consider to be the appropriate basis for fixing the land revenue assessment?
 - (a) Gross produce from the land, or
 - (b) Net produce from the land.



If it is to be altered, what modification would you suggest and why?

Q. No. 6.—Commercial crops are now grown extnsively due to the attractive returns. During the past settlements, the commutation prices of commercial crops were not taken into account.

Do you consider that they should be taken into account for levying land revenue assessment?

If so, can it not continue to be levied as a special assessment, as at present? What are your views on the Andhra Pradesh Commercial Crops (Assessment) Act, 1957?

- Q. No. 7.—(a) Would you link up assessment of land revenue with the price level of important food crops or commercial crops?
- (b) If you agree, do you consider that it should be linked up with the prices of the year immediately preceding the one on which the

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- Q. No. 11.—What do you consider should be a reasonable remission, if the price of the standard foodgrains fall below the commutation rates adopted in settlements by 25 per cent?
- Q. No. 12.—Should there be a consolidated wet assessment on land or should there be an appropriate dry rate depending on the fertility of the soil and other factors and separate appropriate water charge for the use of water?
- Q. No. 13.—(a) According to the local theories and experience, what are the cycles of
 - (a) good
 - (b) drought and
 - (c) famine years in

periods of 60, 30, 10 or 5 years?

- (b) Are these cycles, the same for dry crops also? If not please give details.
- Q. No. 14.—(a) Do you consider that there is any portion of your village, taluk or tract or district, under-assessed?

If so, give your reasons in support of your opinion and also please state by what percentage the assessment could be raised so as not to be a burden on the ryot impeding him from carrying on with his avocation efficiently?

(b) Do you consider, similarly, that there are any areas over-assessed?

If so please specify them and give reasons in support of your opinion.

Also state by what percentage the assessment should be reduced.

Q. No. 15.—What are your views on the graded surcharge levied on land revenue assessment?

PART IV

IRRIGATION CHARGES AND ALLIED MATTERS

Q. No. 1.—What should be the appropriate basis for levying charges for irrigation from projects, major tanks, minor tanks, doruvu wells, springs and open mouth channels from minor rivers?

- Q. No. 2.—In order to economise the use of water for irrigation and to avoid wastage, do you consider that the levy of water charge on the basis of the quantity of water used, would be appropriate?
- Q. No. 3.—What relative importance should be given to the duration of the supply of water and the nature of the water (river water, laden with silt, or water from reservoir, poor in silt) in fixing water charges?
- Q. No. 4.—(a) Do you consider that different rates should be charged for irrigation of lands near the sluices where the supply could be expected to be adequate and timely—and for irrigation of lands further away where the supply could not be expected to be either so timely or adequate, by suitably reducing the class of irrigation sources?
- (b) Do you similarly consider that if the supply of water is from a channel taking off just above the lock, the source could be assigned a superior classification over that of the channel taking off below it, if both the channels supply neighbouring lands which are more or less of the same level?
- Q. No. 5.—It is an accepted fact that irrigation confers different degrees of benefit in the shape of increased yield on different types of soils even though the quality and quantity of water supplied are the same. In computing the water-rates for these lands, should not the different degrees of benefit derived be taken into consideration?
- Q. No. 6.—Should there be any concession in fixing the charges for irrigation for lands which require extensive reclamation for conversion to wet?
- If so, for what period should such concession be extended and how it should taper off?
- Q. No. 7.—What are the difficulties, if any, experienced by you—
- (a) in getting timely and adequate supply of water for irrigation; and

(b) due to inadequate drainage facilities?

What are your suggestions to remedy them to improve the yields?

- Q. No. 8.—Wherever it is established that early supplies of irrigation water result in higher yields, do you suggest that time of supply should be one of the factors governing the quantum of irrigation charge?
- Q. No. 9.—Do you think that supply of irrigation water is a service for which a levy commensurate with the benefit, it is expected to confer, has to be levied irrespective of what it costs the Government in any given area?
- Q. No. 10.—Where sowing of paddy is practised under well-irrigation and the ryot raises small bund to impound rain water to help his crop, do you think water rate or wet assessment should be levied?

Is it not fair that a small area of say 1, 2 or 5 acres served by such source should be exempted and only beyond it, a tax levied?

Do you think that such impounding of water is sometimes necessary for preventing soil erosion?

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Q. No. 11.—Irrigation under spring channels is possible only if ryots contribute labour constantly, for removing silt. Do you think that the usual wet assessment should be collected in those cases and if not, what concession would be suitable?

To what extent can be recurring labour of the ryot be saved, in such cases, by the Government undertaking the construction of a dam with shutters in suitable cases?

Are there any conventions observed in your area to see that the ayacut does not unduly expand beyond the irrigating capacity of the source?

Q. No. 12.—In the case of rain-fed tanks, big or small, would you not consider that a limit should be fixed for the ayacut, based on the recommendations of the Public Works Department?

In cases where the area irrigated is too large and there are constant failures of crops due to inadequate supply and ryots had to construct wells, what concession in wet assessment or water-rate would you consider suitable?

- Q. No. 13.—Where there are kuntas or minor irrigation tanks irrigating not more than 10 acres, 20 acres or 30 acres, do you think handing them over to an Irrigation Panchayat (exclusively of ayacutdars) on payment of a fixed annual sum irrespective of seasonal conditions and area cultivated would be a desirable course?
- Q. No. 14.—Do you think, that at east, the maintenance of such sources (rain-fed tanks irrigating less than 10 acres, 20 acres or 30 acres) could be entrusted to the above mentioned Irrigation Panchayats by diverting normal maintenance grants to them?
- Q. No. 15.—Should irrigation by private parties be allowed by pumping water from (a) rivers, (b) streams and (c) from irrigation canals?

If allowed, what rate should be levied in each of these cases?

Q. No. 16.—Should irrigation wells be permitted to be sunk so near an irrigation canal as to receive water by percolation?

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If allowed, what charge for such irrigation would be fair?

Q. No. 17.—Should perennial cropping under well-irrigation be allowed in non-perennial zones under irrigation projects?

And if allowed, is it desirable to levy an extra water-charge?

Q. No. 18.—Unauthorised use of water beyond the localised ayacut or under irrigation projects is reported to have become a menace.

What steps do you suggest to mitigate this evil?

Which of the following suggestions would you consider suitable:—

- (a) giving powers of levying pehalty to Public Works Department Officials?
- (b) creating a special agency within Public Works Department for launching prosecutions before courts?
- (c) fixing the responsibility on village officers, ayacutdars to prevent and report such occurrences?
- Q. No. 19.—Within the localised area or settled ayacut of a project, there are tanks which were originally rain-fed.

Is it desirable to breach them and irrigate their beds and ayacut under project or feed them from project canals and utilise the tanks?

In the latter case, would you recommend the same assessment as for the rest of the ayacut or an enhanced assessment?

- Q. No. 20.—Are your lands in the perennial or rotational zones of the river anicut systems or projects? If so, please give details of the period of supply.
- Q. No. 21.—If your lands are in a dry irrigated zone, please specify the periods of supply and the rotation of crops prescribed by the Government or adopted by you.

सरमध्य ज्ञान

Q. No. 22.—If you are growing irrigated dry crops by rotation under projects like the Kurnool-Cuddapah Canal, Thungabhadra Project etc., please describe the rotation of crops adopted by you.

What are the difficulties, if any, for adopting the rotation of crops, suggested by the Agricultural Department?

Q. No. 23.—Are the provisions in the Andhra Irrigation Works (Levy of Compulsory Watercess) Act, 1955, adequate to induce ryots to bring their lands commanded by irrigation works under irrigation?

If not, what further steps should be taken by the Government to see that the lands commanded by irrigation works are brought under irrigation, so that there may be increase in food production and judicious use of water?

Q. No. 24.—Are there any indications, that commandable land under any project has not been brought under wet irrigation on account of heavy cost of conversion to wet?

If so, what are your suggestions to solve the problem?

- Q. No. 25.—Has the utilization of irrigation facilities of projects been impeded in any way by lack of minor distributaries or their timely maintenance?
- Q. No. 26.—Is it feasible for the Public Works Department to carry out necessary maintenance work of minor distributaries in time? Could the work be done more expeditiously by the ayacutdars to whom the normal maintenance grant could be diverted?

PART V

ROLE OF DEVELOPMENTAL ACTIVITIES IN PROMOTING AGRICULTURAL PROSPERITY

- Q. No. 1.—Are agricultural supplies, such as, good seeds, fertilisers, pesticides, cement, iron, fuel and lubricating oils, agricultural implements pumping sets, etc., available to you, in time in adequate quantities, at reasonable rate and of acceptable quality?
- Q. No. 2.—Has the extension agency of Agricultural or Community Development Departments supplied improved seeds, new ideas which have added to your income or increased your yields?
- Q. No. 3.—Have you sought any advice on planting seasons, varieties of crop to be grown, manuring and irrigation schedules, pests and diseases and other cultivation techniques from the officers of Agriculture, National Extension Scheme or Community Development Departments? Have you benefited from their advice, and if so, to what extent?

- Q. No. 4.—Is any difficulty experienced in getting permit from Forest Officers for obtaining green-manure leaves from forests?
- Q. No. 5.—What are the green-manure or fodder crops raised by you on your land and are they irrigate d? What are your suggestions to increase the extent under these crops so that the yield of main crops might be improved?
- Q. No. 6.—Have you any special difficulties in raising dry crops?
- Q. No. 7.—What is the crop rotation pattern adopted by you on dry lands?
- Q. No. 8.—Cattle, their life, epidemics, milk supply, etc., and maintaining herds for manures—
- (a) What is the cost per pair of bullocks in your area for small, medium and large varieties?
- Note.—If there are more than two breeds (e.g.) Ongole, Devuni and Hallikar—prices for each breed for all the three varieties may be given. If buffaloes are used for cultivation, similar particulars may be furrished.
- (b) How many years of effective service can be expected from a pair of cattle in your area assuming that normal care is bestowed on their maintenance?
- (i) For cattle utilised for ordinary agricultural operations like ploughing, threshing, etc.
- (ii) For cattle utilised for specially arduous work like lifting water from wells by motah, etc.
- (c) What is the annual cost of maintenance of a pair of cattle?

(The price of straw and the price of concentrates may be furnished separately.)

Q. No. 9.—Are pests and diseases, a problem in your area and if so, mention them in relation to each crop grown in the locality? Are these pests and diseases controlled by plant-protection measures, and if so, mention methods and give costs and if not, state the extent of damage caused by these to the respective crops and also suggest what help the cultivators need to combat them?

- Q. No. 10.—What are the diseases from which cattle suffer in your area? Is the veterinary assistance available to you, timely and adequate with regard to—(a) epedemics and (b) normal diseases?
- O. No. 11.—What is the milk-yield of cows and buffaloes in your area? Are both used as milch animals or only one kind. If the yield is low, to what do you ascribe this defect—
 - (a) lack of roughage, green or dry;
 - (b) lack of concentrates;
 - (c) defective breed; and
 - (d) bad maintenance?
- Q. No. 12.—Have any breeds been brought in your area from outside, and if so what are the breeds and from where? How do they compare with the locals in milk yield and draught capacity? If they are better, is it due to better maintenance or their inherent qualities?
- Q. No. 13.—What are the sources of credit to the cultivators in your area for—
 - (a) normal cultivation expenses;
- (b) purchase of good seed and chemical fertilisers;
- (c) medium term loans for the purchase of bullock, pump-sets, construction of wells, etc., and
- (d) long term loans for the purchase of lands, etc.?
- Q. No. 14.—What is the relative importance of the following agencies with reference to each one of the above items:—
 - (a) relatives and friends;
 - (b) substantial farmers;
 - (c) village money-lenders and traders;
 - (d) village co-operative societies;
 - (e) land mortgage banks;
 - (f) Government Taccavi loans;
 - (g) Agricultural Department loans.

Are there any difficulties in obtaining credit from any of the above sources? Please state the terms on which credit is available and suggest ways and means for increasing the quantum of credit and the quality of service?

- Q. No. 15.—Are the cultivators prompt in repaying loans to the different agencies and if not what are the causes? Is it due to indifference or unprofitable farming? What are your suggestions to improve the situation?
- Q. No. 16.—Are Co-operative Societies working successfully in your area and if not what factors militate against their success?
- Q. No. 17.—How are the improvements to the productive capacity of land, held up, for want of credit? Mention some typical items and suggest ways to improve the situation.
- Q. No. 18.—What are the normal channels of marketing your produce—
 - (a) paddy;
 - (b) other foodgrains;
 - (c) oilseeds and cotton;
 - (d) chillies, turmeric, etc.,
 - (e) sugarcane, jaggery;
- (f) fruits, vegetables, milk, eggs, etc. (perishables); and
 - (g) other commodities?
- Q. No. 19.—Do you sell them to the village trader or at the regulated market? In the latter case, how far is the regulated market from your village? Do you get the full value paid by the purchaser, and if not, what are the deductions made, and to what extent can these be minimised?
- Q. No. 20.—Is there a Co-operative Marketing Society in your area?

Are you a member?

If so, what are the benefits derived by you and if not, give the reasons for your abstaining from joining the same?

Q. No. 21.—Is there a Farmers' Organisation in your area? If there is one, are you a member? If not, do you wish to organise one for promoting the economic interests of the community of farmers?

PART VI

PROBLEMS RELATING TO LEVYING AND COLLECTION OF LAND REVENUE AND OTHER TAXES FROM RYOTS AND THE GRANT OF REMISSIONS AND OTHER ALLIED MATTERS

- Q. No. 1.—Are you satisfied with the present system in respect of the following and if not, suggest remedies:—
 - (a) time of collection of land revenue;
 - (b) the form of issuing land revenue receipts;
- (c) the timing of collection of arrears whether of land revenue, Government or co-operative loans;
- (d) granting of remissions, whether due to general crop-failures, in dry lands; or specific failures in wet and irrigated lands;
- (e) system of fixing area to be cultivated for second crop paddy (Tabi) (called Thaibandi in Telangana);
- (f) system of permanently including dry lands cultivated as wet over a period of years in the ayacut:
- (g) Azmoish, over azmoish or sanctioning the remission:
- (h) mutation or transfer of registry of patta consequent upon succession, partition or sale;
- (i) survey, subdivision and maintenance of boundary stones and supply of field sketches and field particulars to the cultivators; and
 - (j) holding of Jamabandi?
- Q. No. 2.—Are there many cases of land revenue sales for arrears of land revenue?
- Q. No. 3.—Are there many cases where Government had to purchase the lands in the auctions for want of bidders?

- Q. No. 4.—What are your views regarding the levy of sales-tax or purchase tax on foodgrains and commercial crops and to what extent is this burden shifted to the land-owner?
- Q. No. 5.—Are any of the conditions in the ryotwari patta causing any hardship to the cultivators? If so, what modifications would you suggest to remedy the same??
- Q. No. 6.—What rate of remission do you consider would be appropriate for dry and wet crops which are ravaged by cyclones?
- Q. No. 7.—Do you consider that any special concession is necessary for coconut gardens, ravaged by cyclones, as these gardens do not bear a normal crop for a period of two or three years after a cyclone?
- Q. No. 8.—What scale of remissions do you consider would be appropriate for the crops damaged extensively by insect pests and plantdiseases?

Address: Signature and designation of Station:

person answering the questionnaire.

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Date:

APPENDIX 3.

Statement showing the number of officials and non-officials from whom replies to questionnaires have been received in each district.

	C.1 1:					Replies receive questionnair	ed to the e from
Nan	ne of the distric	rt 				Officials	Non- officials
1.	Srikakulam					33	33
2.	Visakhapatna	m			••	14	14
3.	East Godavar	i	• •	• •		35	. 36
4.	West Godava	ri	• •	• •		15	19
5,	Krishna	••		hiph Tr		28	13
6.	Guntur	• •				40	54
7.	Nellore	• •	🦑			30	39
8.	Kurnool	• •	[.		••	42	19
9.	Anantapur	•		Al Als		22	22
10.	Cuddapah	• •		11 (S-17)		17	26
11.	Chittoor	••		याग्रेस संघर्ष		·29	57
12.	Hyderabad			444 -141		14	19
13.	Mahabubnaga	ır		• • •		15	11
14.	Adilabad	••				9	14
15.	Nizamabad	• •		• •	• •	10	18
16.	Medak	• •	• •		• •	12	17
17.	Karimnagar		••		••	4	21
18.	Warangal	••	••	••	••	12	7
19.	Khammam	٠.	• •			10	10
20.	Nalgonda			• •		14	18
						405	467
				Total		872	

APPENDIX 4

Abstract of places visited and the number of witnesses examined (Officials and Non-officials), by Land Revenue Reforms Committee, Hyderabad.

Nan	ne of the place visited		witnesses nined	Nan	ne of the place visited		No. of wexam	vitnesses nined
		Officials	Non- officials			•	Officials	Non- officials
Нуа	lerabad.			Mah	abubnagar.			
1.	Hyderabad .	. 13	10	1.	Mahabubnagar		15	92
2.	Rajendra Nagar	. 1		2.	China-rajamur			3
Niza	amabad.			3.	Bandarupalli		1	• •
1.	Bardipur .	. 2	4	4.	Yenugonda			1
2.	Nizamabad .	. 8	12	5.	Badepalli at	Ì		••
3.	Jakora .		3	6.	Jadcherla Thimmajipet	ſ		1
4.	Durki .	• ••	1	7.	Bijjanapalli		••	2
			1/11	8.	Jannapeta		••	1
5.	Ibrahimpet .		2	9.	Wanaparti		A gather	
6.	Tirumalapur .	• ••		Easi	Godavari.		ryo	ts .
7.	Malarial Centre	. 1	बदांग	व । स्ट	Kakinada		6	4
8.	Nizam Sagar dan	n. 1	• 4	2.	Rajupalem	٦		
9.	Banswada .	. 1	4	3.	Divila Pulimeru	}	2	
10.	Deccan Planta-	1		5.	Samalkota	J	•	
	tions (Private) Limited, Sulai-	}		6.	Ramachandra-		4	1
11.	mansagar. Rudrur Agl. farm) 1. 1		7.	puram. Jagannadhagiri			1
12.	Warni .		3	8.	Amalapuram		3	13
13.	Visit to Nizam)		9.	Rajole		2	7
	Sugar Factory	}	3	1	t Godavari			
14.	Visit to Nizam			1			1	
15.	Sugar Factory Bodhan .	. 4	13	1.	Settipeta	٠.	1	••
16.	Arumur .	. 1	7	2.	Agricultural Rice Research		2	6
17.	Kamareddi .	. 1	6		Station, Maruteru		`	

Name of the visite		N		vitnesses mined	Na	ime of the place visited		No. of we exam	
		Oi	ficials	Non- officials				Officials	Non- officials
Nellore.						G. Singavaram			1
1. Nellor	e	••	8	19	5.	Gargeyapuram	••	• •	••
2. Sangai	m Anieut	•• `		• •	6.	Nandikotkur		1	3
3. Kadag	guntla	• •		••	7.	Mandalam			2
4. Hamle			• •	1	8.	Loekinsula		1	
5. Vinjen	akur. 1ur)			9.	Atmakur		1	2
 Amand Podala 		}	••	6	10.	Bandiatmakur	٠.	• •	1
8. Visit to	o Shaw-		1	3	11.	Doobaguntla		• •	3
mine 9. Balaya)	1		12.	Batulur		••	3
10. Yechas	samu-	}	•		13.	Allagadda		2	5
Chittoor.					14.	Nandyal, (Agri	-)	3	5
1. Tirupa	ıthi	• •	2	5		cultural basic school)	}	,	~
2. Chand	ragiri)			15.	line fl	••	••	5
Suwa		}	••	2 2 7 7 Till	16.	Kodemuru Adoni	••	4	3 7
	hi river	J		of Arda			••	4	′
3. Putalp			1	. 7	18.	Adoni Market Committee.	• •	1	••
Vaya	lpadu	}	_	·	19.	Siriguppa		1	• •
Mad	anapalli	ر			20.	Peddaharivanan	n	2	3
4. Punga	nur	• •	1	6	21.	Yemmiganur		. 1	5
5. Chitto	or		9	21	22.	Yemmiganur	٠.	1	
Kurnool.					23.	farm. Bhavanasi far	m		
1. Kurno	ool	• •	5	3		(Cattle breed diary farm)			1
	ur water				Gun	· ·			_
	on and thalapadu	ł			1.	Nagarjunasagar		5	1
lagoo		••	1			Inspection dan site and subme			
3. Sunkes	sala		3	2		gible area.		_	
			1	,	2.	Guntur Visited Lam far		6 3	22
4. Kotha	кота	• •	1	1		visited Lam far	111.	3	• •

APPENDIX 5.

Table of water classification in Telangana

. 2														WAT	ER	WATER CLASS	SS									Ì	
bnagan classi	bnaganna Son classification	Į	anna	1 1 23.		1 2	1 <u>1</u> annas.		2 annas.	55	63	2 <u>1</u> annas	0.1	i ei	3 annas.		ة	3 <u>1</u> annas.		4 annas.	35.	esi	4 <u>1</u> 2nnas.	, i	an	5 annas.	1
				Rs.			Rs.		Rs.	S.		Rs.			Rs.			Rs.		Rs.	S.		Rs.			Rs.	ı
16 annas	:	:	12	0	0	11						112	0	6		0						9.	12	0	9	0	0
15\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	:	:	11				14 0		10 2	0 7		9	0 9 6	∞	10	0	∞	П	0	7 5	2 0	9		0			0
	:	:		4								3	0	00		0						9	9	0		10	0
14½ ,,	:	:		14				-	7600			0	0	∞		0						9		0			0
14 ,,	:	:						ब्रह		1 .		7	0	7		.0						5	13	0			0
13\frac{1}{2} ,,	:	:	10					C	-Ota-	×	100	4	0	7		0						5		0			0
13 ,,	:	:									1x 1 L	1.14	0	7		0						5		0			0
	:	:							II was	1 1 6	1 . 4	101	0	9		0						S	4	0			0
	•	:							100	16		7 5	0	9		0						5		0			0
1112 ,,	•	:	∞	01	0	∞	1 (0	7			15	Q,	9		0						4	Ξ	0	4	2	0
	:	:										1, 12	0	9		0						4		0			0
	:	:		14								9 .	0	5		0						4	2	0			0
	:	:		∞	0							5 0	0	5		0						4		0			0
9. 3,	:	:	7	7	0	9						5 13	0	3		0		14		4 8		3		0			0
6	:	:	9	12	0							. 7	0	5		0						33		0			0
$8\frac{1}{2}$:	:		9	0							4	0	4		0		2	0	3 15		3	9	0			0
*	:	:	9	0	0				ۍ ر			1 14	0	4	∞	0	4	7	0			3	9	0	cc	0	0

BASIS: Hypothetical rate of Rs. 12 per acre.

APPENDIX 6.

A. Standard scale of watercess on dry lands.

	DE	SCRIPTION OF CROP						Сн	ARC	GE PI	ER A	CRE	;
									urc		S	d cla	e
(a)	Sugarcane, b	etel, plantain, turmeric	and ele	pha	ntya	m		6	0	0	4	8	0
	months	op which requires water		• •			. •	6	0	0	4	8	0
(c)	Crops other	than those specified in	clauses	(a)	and	l (<i>b</i>)			• •			••	
No	. 1st Crop	2nd Crop	First c				op			d cla		our d cr	
		45	Rs. as.	Sec. Land			ps.			ps.	Rs.	as.	ps.
1.	Wet	Wet	4 0	0	2	0	0	3	0	0	1	8	0
2.	do.	Dry systematically irrigated	4 0	0	1	8	0	3	0	0	1	2	0
3.	do.	Dry occasionally irrigated	4 0	0	1	0	0	3	0	0	0	12	0
4.	Dry systema cally irrig	ti- Wet occasionally ated irrigated	3 0	0	2	8	0	2	4	0	1	14	0
5.	do.	Dry systematically irrigated	3 0	0	2	0	0	2	4	0	1	8	0
6.	do.	Dry occasionally irrigated	3 0	0	, 1	8	0	2	·4	0	1	2	0
7.	Dry occasion ly irrigated	nal- Wet occasionally irrigated	2 0	0	3	0	0	1	8	0	2	4	0
8.	do	Dry systemati- cally irrigated	2 . 0	0	2	8	0	1	8	0	1	14	0
9.	do	Dry occasionally irrigated	2 0	0	2	0	0	1	8	0	1	8	0
	Descr	iption of crop					•		clas urc	e e	2nd	l cla	e
(d)	Third crop:	if wet if dry, whether systematically or occ	rasional	··	rigat	ed	••	Rs. 2		ps. 0	1	8	os. 0 0

Explanation (1).—Irrigation sources are divided into two classes for purposes of charging fixed rate of watercess. Irrigation sources placed in the 1st or 2nd group by the settlement department should be treated as first class and those placed by the settlement department in groups lower than the second should be treated as second class. In the district of Anantapur and in the taluks of Adoni and Alur of Kurnool district however, irrigation source classed in the third group by the settlement department should also be treated as first class.

- (2) Explanation.—Coconuts and other trees forming tope plantations will be charged the same rates as the crops included in clause (a) if they take water for more than six months. If not, they will be charged the rate for a single wet crop specified in clause (c).
- (3) Explanation.—Casuarina, bamboo and other timber and fuel plantations should be treated as dry crops and charged as for occasional irrigation. The charge appropriate for the irrigation of a first dry crop should be levied if water is taken for a period, not exceeding six months. If water is taken for a longer period one and a half times the above charge should be levied.
- (4) Explanation.—For purposes of these rules Collectors from time to time shall publish in the respective district Gazette, list of crops which are to be regarded as 'Systematically irrigated' and as 'occasionally irrigated'. Provided that no charge in the notified classification of a dry crop shall take effect until the commencement of the fash succeeding that in which the change is notified.

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Watercess payable under pedda Kandleru Project in Vinukonda Taluk of Guntur District

1. Duffasal Crop:

Rs. 9-0-0 per acre.

2. All other crops :-

I crop	II crop	Ιc	Ra rop	te p		cre I cr	on
	<u>-</u>		.ор				о р
Wet	Wet	Rs.		as.	Rs.		ps 0
Wet	Dry systematically irrigated	6	0	0	2	4	0
Wet	Dry occasionally irrigated	. 6	0	0	1	8	0
Ory systematically irrigat	ed Wet	. 4	8	0	3	12	0.
do	Dry systematically irrigated	4	8	0	3	0	0
do	Dry occasionally irrigated	. 4	8	0	2	4	0
Ory occasionally irrigated	Wet	. 3	0	0	4	8	0
d o	Dry systematically irrigated	3	0	0	3	12	0
do	Dry occasionally irrigated	. 3	0	0	3	0	0
	3rd crop if wet				3	0	0
rd crop if dry whether of cally irrigated	casionally irrigated or systemati-				1	8	0

	Crop			F	Rate p	er a	acre.
					Rs. a	s. p	os.
1.	Duffasal crop, or two wet crops	• •	••	••	22	8	0-
2.	For the first or single wet crop	••	••		15	0	0.
3.	Dry irrigated crop	• •	••	••	10	0	0

Government Memo No. 133980. M. 57, dated 16-5-1958.



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S. No.	Name of the oroject		Ilwet crop									II wet crop following a 1st. dry crop			II dry crop		
(1)	(2)		(3)		(4)			(5)			(6)		(7	')	
]	Rs.			Rs.			Rs.]	Rs.			Rs.		
1.	Godavari & Krishna deltas I class irrigation	6	4	0	3	2	0	3	2	0	6	4	0	3	2	0	
	II class irrigation	5	0	0	2	8	0	2	8	0	5	0	0	2	8	0	
2.	Yenamadurru drain below Bhimavaram tidal lock. & Collair and Upputeru Muniyeru anicut system Tanks and other upland sources of Godavari & Krishna systems 6 months & more Group I 3 months & more Group II less than 3 months Group III less than 3 months Group III Bangarappa Tank in Polavaram Taluk		0 4 0 0 0 0	0 0 0 0 0 0	2	0	0 0 0 0 0 0	2 3 2 1 3	0 2 8 0 8	0 0 0 0	2 2 2 1 3	0 2 8 0 8	0 0 0 0	2 2 2 1 3	0 2 8 0 8	0 0 0 0 0 0	
3.	Polavaram Island project	10	8	0	5	4	0	5	4	0	5	4	0				
4.	Bhavanasi project Guntur district		6	0	4	11	0	4	11	0	4	11	0	4	11	0	
5.	Mopad reservoir in Nellore district	7	13	0	3	15	0	3	15	0	3	15	0	3	15	0	
6.	Vavveru channel & its branches in Kovur taluk of Nellore district	6	4	0		••		3	2	0		••			••		

	we			dr rop	p crops for a plantain, turm period of not elephantyam, less than when water				ugar- tel, urmeric am, etc.	and fuel	l otl plai irrig	her ntai	, bar timb tions ed fo od	er & if		Re- mar- ks.		
							5 years		taken	for		cee	ding	g	Exc 6 r	eedi nns.		·
((8)		(9)		(1	10)			(1	1)	ı	(12)		(13)		(14)
I	Rs.]	Rs.		R	s.			Rs	•		Rs.			Rs.		-
2	8	0	1	4	0	10	3	0	9	6	0	3	2	0	4	11	0	
2	0	0	1	0	0	8	2	0	7	8	0	2	8	0	3	12	0	
2	0	0	2	0	0			E	6	0	0				3	0	0	}
3	2	0	3	2	0		••		وار	6	o		••		4	11	0	}
2	8	0	2	8	0	•			बद्यां हुन	8	0				3	12	0	(A)
2	0	0	2	0	0	•			6	0	0				3	0	0)
1	8	0	1	8	0				4	8	0				2	4	0	(A)
3	0	0	3	0	0	•			9	0	0		••		4	8	0	}
5	4	0							15	12	0							
	٠.		4	1	1 ()			14	1	0 (B)							
	••		3	15	0)	- •		11	12	0 (C)							
3	2	0							9	6	0							

												ÀР	PEN	DIX
(1)	(2)	((3)		((4)			(5)		(6)	: -	(7))
			Rs.		F	۲s۰			R	S.	Rs.	ļ	Rs	•
7.	Pedda and Chinna Cheruvus & their supply channels in Chamadala village Nellore District	. 9		0		••		4	11	. 0	••		••	
8.	Gundamadakala tank in Udayagiri taluk of Nellore Distrct	6	0	0		••				••	••		••	
9.	Siddapuram Tank in Kurnool district	6	0	0	2	0	0	3	0	0	••	2	0	0
10.	Venkatapuram Tank in Kurnool district	4	3	0	2	1	0	2	1	0	••	2	1	0
11.	Tippayapalam reservoir in Kurnool dt.	10	0	0	7	8	0	5	8	0	••	5	0	0
12.	Eguva Cherlopalle project	6	0	0	3	0	0		٠.		• •		••	
13.	Nagavaram Tank & supply channel Cuddapah District	6	0	0	ें 3 विद्या		0	4	0	0	••	3	2	0
14.	Aswartharayani Kunta in Cuddapah district	6	4		্ব ব		역하다	3	2	0	••			
15.	Peddasettipalli Spring Channel in Cud- dapah district	5	8	0		••		1	6	0	••		••	
16.	Channarayasawmi Gudi project, in Ananta- pur district & Lanka Tirumalasaka Chan- nels in Guntur dt	&	0	0	10	0	0		••		••		• •	
17.	Vegavati Anicut Srikakulam district	15	0	0	10	0	0		••		••		••	
18.	Ravanapalle Reservior scheme in Visakha- patman District	15	0	0	10	0	0				••		••	

(8)	(9)	(10)	(11)	(12) (13) (14)
Rs.	Rs.	Rs.	Rs.	Rs. Rs.
• •	••	••	••	•
4 11 0	••	••	14 1 0	•
••	••	• •	9 0 0 (E)	
3 0 0	2 0 0	••	9 0 0 (F)	
2 1 0	2 1 0	••	6 4 0	(A) The rates in column 3 are chargeable for a first crop
• •	••	••	15 0 0(G)	of paddy and for a coconut garden and other plantation of trees which are regarded as a
••	••	••	9 0 0 (H)	wet crop. For any other first wet crop the rates in column 14 are charged.
4 0 0	3 2 0	••	10 0 0*	(B) Total charge in a fasli
3 2 0	••	••	सद्योग नधने 9 6 0 (I)	should not exceed rupees 14-1-0 per acre.
1 6 0	••	••		(C) Total charge in a fasli should not exceed rupees 11-12-0 per acre.
				(D) The rates are applicable for irrigated crops.
	••		22 8 0	(E) For first, second or third irrigated dry crops Rs. 3 are charged per acre if they are not duffasal crops.
••		••	22 8 0	(F) If dry crops remain for more than 6 months on the ground the charge is Rs. 3
••	••	••	22 8 0	per acre.

^{*}The charges are for irrigated crops.

APPENDIX-

(1) (2) (3) (4) (5) (6) (7)



बक्यमेव नगरी

6.—(c	ontd.)
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(8) (9) (10) (11) (12) (13) (14)

- (G) The rates are sanctioned in G.O. Ms. 1336, dated 17-7-58.
- (H) The rates given are for wet, dry and Duffasal crops and not for first, second, or third wet or dry crops.
- (1) The rates are applicable for crops which are irrigated. For an irrigated duffasal crop following an irrigated crop in the same fasli, the rate is Rs. 6-4-0.
- (J) The rates are applicable for crops which are irrigated. For a duffasal crop following an irrigated crop in the same fasli the rate is Rs. 2-12-0.



APPENDIX 7.

Statement showing the rates sanctioned under the projects of ex-Hyderabad State (Telangana)

Sl. No.	Name of Project	Old or project i.e project working f after 1	e.whether started from or	Group		Rat	es	Remarks
					0.	S. I	₹s.	
1.	Palair (Khammam)	(old	п	18 16	0	0	
2.	Baithpalli (Madhira)	• •	• •	II	16	0	0	
3.	Wyra (Khammam and Madhira)	••		II Khammam II	16	0 0 0	0 0 0	
4.	Singabhopalam (Yelland	u) 🤼		Madhira II	14 14 12	0 0 0	0	
5.	Manair (Sirsilla)	💠 🕽		n	18	0	0	
6.	Chegaon (Sultanabad)	,	8	n	16 16	0	0	
7.	Bheemanpur (Parkal)	(1)		VI	14 16	0	0	to
8.	Fatehnahar (Medak)			v	12 20	0	0	to
9.	Mahaboobnahar (Medak				17	0 do	0	
10.	Rayanpalli (Medak)	्राट्या संदर्भ	के जगन			do		
11.	Pocharam (Medak)	••	12 12			do		
12.	Pendlipakla (Deverkonda	ı)	••	III	15 12	0	0	
13.	Dindi (Deverkonda)	••	••		10	0 do	0	
14.	Chandrasagar (Achampe	t)	••	nı	16 12	0	0	
15.	Nizamsagar (Bodhan, Banswada, Nizamabad and Armour)	••	••	п	20 17 14	0 0 0	0 0 0	Armour
	,			П	20 17	0	0	Bans- wada.
				n	20	0	0	Bodhan
				п	17 20	0	0	Nizam-
16.	Kadam	••	••		12	0	0	abad. Abi.
17.	Koilsagar	• •	• •		10	0	0	for single crop.

APPENDIX 8,

Note for "Registered Farmers' Association" submitted

by

J. R. REDDI, IN 1942.

In a provisional note of mine submitted for your scrutiny I had emphasised certain principles for acceptance if our approach to the general mass of agriculturists is to be effective. To see is to believe and nothing can induce so much confidence as seeing the innovations give conspicuous results under the actual conditions of the cultivator's farm. Again the approach will be most fruitful if it is through their natural leaders—the intelligentsia and the better class of farmers. The idea of making accomplished facts appeal to the realism of the farmer has taken the shape of demonstration farms but in practice there is always a certain amount of prejudice against them in the public mind. They are always approached with certain mental reservations for it is felt that these are not worked on economic lines and that too much money has been invested to take them beyond the reach of a private farmer. It would be a great achievement if we could organise men—intelligent, literate and influential all over the State naturally willing to abide by the advice of the department and employ them for purposes of propaganda. If their farms could be improved where they are, they will make an appeal far more effective than any department is capable of.

- 2. The organisation may be called either a Registered Farmers' Association or a Scientific Farmers' Society. The name may be anything so long as the purpose it is made to serve is the same.
- 3. The ownership of land, cultivation at his own risk, residence in the village where lands are situate, literacy and finally the capacity to keep the profit and loss account of his whole farms or of a part will constitute the tests of eligibility to the membership of the association.
- 4. A member will be required to allot a fifth of his holding or 20 acres dry 3 acres garden or 2 acres wet land to receive the improved treatment under the closest supervision of the department. It will be a part of his responsibility to keep an account for allotted part very accurately and circumstances permitting of another equal part to serve as a control.
- 5. All those that freely accept this responsibility and satisfying the eligibility test will be brought together into a primary society organised for every taluk. The Taluka Development Officer will be an ex-officio secretary and the whole body will work as one of the members as the elected president.
- 6. The agricultural magazine to be started by the department will be supplied free to the members. In any credit system that may be organised for financing agriculture their needs will be given the first priority. Their children will have a claim to free agricultural education, of course without any obligation to employ them the reafter.
- 7. Each member's holding will thus be split up into an allotted area receiving improved treatment and the benefit of scientific management and the remaining portion continuing in the usual way. Permanent improvements on the allotted part will be introduced through the land-owner at State's expense to be realised without in terest out of profits of better farming.

- 8. The Department of Agriculture will guarantee to make good the loss that may result from the altered practices. The guarantee will in practice amount to nothing for only those practices will be introduced that have been tried and tested on the experimental field.
- 9. I suggest that under this scheme any graduate of a University though landless at present but applying for a loan to buy land and settle on it an undertaking to abide by the other conditions may be given the requisite finance at a low rate of interest and admitted to the membership of the association.
- 10. On the general improvement of the holding of a member the State loses nothing by granting a priority in matter of finance and the loss of interest alone on the money spent for the improvement of the allotted area will be amply repaid in the form of creating public opinion in favour of these improvements. If in course of time we could bring into being a sufficient number of these improved or registered farms well distributed over the entire country side we can convert most of our demonstration farms into experimental stations and thus effect an economy under the head 'Agricultural Propaganda'.
- 11. Improved seed is a great need at any time and this organisation in being will be a great boon and all these allotted areas may in one way or the other be used as seed farms.
- 12. If we could have one or more of these registered farmers in every village the task of collecting reliable and accurate statistics—agricultural and rural will become considerably easy and simple.
- 13. Ordinarily for an improvement to reach from the initial stages to a stage at which it could be recommended to a common peasant it takes nearly 5 to 7 years, of this period 2 or more years are taken to try them here and there on cultivators plots and thereafter the actual propaganda in its favour starts. In the presence of the organisation I have described this trial of 2 years and more will itself be a propaganda in its favour. Again any improvement suggested may at once be demonstrated in every village and in all areas and crop behaviour watched with reference to the improvement for consistency under varying conditions.
- 14. Indian Agriculture has a hoary tradition behind it and our men of the villages have learnt by experience certain things that science has not been able to explain. Thanks to centuries of experience and the single-minded devotion of our lands-men our agriculture has developed into a complicated art and by inducing the native intelligence of the villages to co-operate with the scientifically-trained officer we may be able to synthesise out of this art and science something we have been eagerly longing for.
- 15. There is no limit to the extent to which we may go forward with this scheme for indeed our aim is to convert our whole countryside into one uniform improved and scientifically managed farm.
- 16. If we succeed in the initial stages more and more men will apply for membership and afford the department the much desired opportunity to serve the society in an expanding sphere.
- 17. Lack of agricultural aristocracy and the educated middle class is greately responsible for the poor standard of farming and hence we should employ every opportunity to attract educated men into this profession and to better organise the aristocracy that still remains in the rural areas.

- 18. The various primary societies must be further linked up into district and a central organisation. This union of practical farmers functioning along with the Agricultural Department testing its recommendations on the anvil of field, experience, suggesting problems for investigation and criticising it fearlessly whenever it serves from its path of duty will be a tower of strength to it and will earn for it an enviable place among the other sister departments of the State.
- 19. Taluk, District and Central associations may meet quarterly, half-yearly and annually and may deliberate about the problems facing them. It will have a semi-official executive to represent grievances and to strive to maintain a balance of power between rural and urban classes.
- 20. To-day the greatest difficulty of the Government is to know facts unbiassed and true. This organisation will bridge the gulf and carry facts and grievances directly from the "lowliest and the last" in the villages to the most highly placed in the seat of power. Heads of Departments and Ministers of State will have an opportunity to know real facts without taking recourse to the official reporting agency. An organisation of this type will be a great asset when the drive for efficiency will have to be undertaken one day or the other among the nation building services.
- 21. Having earned first the good-will and then the gratitude of these scores of thousands of educated, literate and liberal minded farmers the Government will be free to employ them in its crusade against poverty, ignorance and disease.
- 22. This country in general and the farming population in particular is living under the influence of a vicious circle. Society is divided into various classes differing in economic status, extent of literacy and level of education and general culture and each class has got to be met on its own ground. Problems are so complicated and limitations are so many that if success is to be ours we must battle on many fronts and must use newer weapons. I suggest the setting up of this organisation in the hope that it may serve as one of the many effective weapons in our great fight against poverty and want.

APPENDIX 9.

Note for consideration of agricultural propaganda submitted

by

J.R. REDDI, IN 1942.

Agricultural propaganda aims at conveying the results of research to the great mass of agriculturists and presenting them in an acceptable and practicable form to them. The First requisite, therefore, is that the results of research must be sound and must have the backing of thorough and exhaustive work. This aspect will be taken up more fully by the Committee of scientific research and we need only emphasise that agricultural research may be considered separately so that its distinctive features may receive due attention.

- 2. Propaganda Section has to perform another essential service of suggesting the problems of research to the scientific worker both in the laboratory and on the experimental farm. Without taking this inspiration from people for whom the research is intended the scientist as well as the propaganda officer is liable to lose touch with actual life and function in an artificial atmosphere.
- 3. For purposes of co-ordination between the various nation building departments a post of a Taluka Development. Officer should be created. It is best this officer of the grade of a Tahsildar is attached to the Revenue Department. The selection of men to fill this office must be done with care and circumspection. There is a crying need for Rural Development Services to start from a single Ministry and after spreading outwards into various departments to converge into a Development Officer. Nothing can achieve so much as perfect co-ordination.
- 4. The present practice of appointing a scientifically qualified person for every three or four taluqs is inadequate and serves no purpose whatsoever. An Agricultural Graduate Inspector for every 30 villages is the minimum needed under the present conditions. Finance should not stand in the way but the lack of sufficient number of qualified men may hold up the scheme for quite a length of time and I emphatically submit that the Agricultural Colleges may be started forthwith even during the war—and the scheme pushed forward stage by stage as the qualified staff becomes available. Nothing is lost by having no Inspectors for the first few years in certain areas but it is simply wasteful and unproductive of any good results to have one of the men for more than 30 villages. The idea of importing men from outside to fill vacancies in Agricultural Department should be discouraged altogether. Indeed a very persistent attempt should be made to induce people from villages and from families of farmers to join colleges of agriculture even if it be to recruit them to the Department.
- 5. Colleges should be started in rural surroundings and rural atmosphere must be maintained so that when men go out to villages from these institutions they may not feel the change unpleasant or acutely.
- 6. A Development Board for every taluka and like institutions for every district and at the centre meeting periodically and exercising supervision over the nation building activities of the Government will be a very desirable feature.
- 7. Recommendations framed by the department should suit local conditions must fit well into prevailing systems. They must take into account those peculiarities that make growing of certain crops extremely profitable in certain areas. Besides the local conditions the economic status of the men, their education, size of their farms etc., have a bearing on the practicability of the recommendations.

- 8. The practice of doing propaganda for any single improvement should be discontinued. The unit in all cases is a whole holding and results will be conspicuous only when all improvements are introduced and practised persistently over a certain minimum period of time.
- 9. Propaganda staff should be allowed a wide margin within which to function freely and unhampered. They need only be equipped well with general principles and policy and must be allowed freedom to think together with the farmer and recommend improvements and practices not only in furtherance of the general policy but to suit the individuals' needs.
- 10. The personality of the Graduate Inspector is all important. He must be allowed to stay at a place for sufficient length of time, to know things fully and correctly and gather around himself sufficient prestige for his word to be heeded by the men around him. If one has been doing a useful work he should never be faced with the need to seek promotion elsewhere. A good man should be remunerated where he is without the necessity of disturbing his good work.
- 11. Dress, manners and language of such a man arc powerful enough to make him popular or otherwise in the locality in which he aspires to serve. Purity of personal life should be emphasised for that appeals tremendously to the Indian masses.
- 12. Technical knowledge alone is not enough and his general culture must win for him an unchallengeable place within the village community.
- 13. He must appear as little of an official as possible and he must be recognised by the familiarity of his person and manners and not by his uniform and a sun hat or other official paraphernalia. I would go further and suggest that he should champion the cause of the villager against the forces that contribute to the official tyranny in the villages. When done with zeal and discretion, this championing will win him an amount of popularity that cannot be got by any other means. He may play the role of an investigator and a prosecutor whenever he sees the economic interest of an individual or a class wrongly jeopardised. He should guard himself against getting entangled in the party politics of the village and should not allow himself to be overwhelmed by this type of work alone.
- 14. The principle of approaching the great mass of people through their natural leaders—the intelligentia—must be accepted and must be given effect to.
- 15. Starting of a monthly magazine in all languages of the State and its distribution free of charge at the rate of one to a village and at a nominal price to all those that may desire is very urgently called for. Editorial Board must consist of eminent and highly talented persons and contributors must be drawn largely from those that are actively engaged in the profession.
- 16. Registered Farmers Association to bring together all literate farmers willing to abide by certain conditions will have a very good effect. Once these men naturally willing to carry out the recommendations of the department are convinced of its value we will have so many centres all over the State from which we may begin to operate. I suggest that these organisations may be started at the centre and allowed to spread into the districts for without a central body no organisation can have enough prestige to command a hearing from the authorities.
- 17. Such other organisations that aim at bringing together fruit farmers, cattle breeders, sugarcane growers, etc., should be started, encouraged and fostered.
- 18. Criticism of Governments' nation building activities must be encouraged to develop along healthy and constructive lines and Officers in places high and low must learn to take and deal with opposition in a big manner without rancour or

bitterness. In the absence of opposition and criticism any institution is liable to develop a fascist state of mind and nothing other than this is so damaging to the ultimate goal of Rural Development.

- 19. Educated farmers settled in a compact colony in every taluk working on most modern lines and adopting co-operative principles wherever practicable will have a great educative value and will be a source relieving the educated unemployed. Here also I emphasise the need to leave the initiative in the hands of the men subject to the general policy of the Government land for this purpose could be purchased or acquired in typical areas.
- 20. Demonstration farms must be started in greater number and they must be worked on a commercial basis. Unless this is insisted upon I see no chance of their appealing to the realism of the farmers. Costly buildings, complicated machinery and other expensive equipment make the gulf between it and a typical farm of the area very wide indeed. Demonstration farms must represent a state of affairs attainable by at least a middle class farmer. Separation of demonstration and experimental farms will make it possible to run the former in business lines. It must be recognised that facts appeal better than any amount of vocal propaganda. Attempt should be made to distribute the demonstration farms, educated farmers' colonies and other like institutions as uniformly as possible.
- 21. Here again I would emphasise the need to induce the well-to-do men in the villages to organise their farms better and on more scientific lines.
- 22. Possibility of introducing improvements presupposes a certain level of economic status on the part of the farmer. All other things being equal richer the man easier is it for him to reform his farming. These people are very often intelligent and invariably literate and no stone should be left unturned to induce such men to run their farms on model lines. A few of these in every taluk will have a great propaganda value. We will have done a great thing if we could have one such farm for every village. It is wrong to feel that these men need neither advice nor guidance. Indeed these are just the people that commit costly mistakes and create in advance an atmosphere of prejudice against all innovations and improvements.
- 23. If well-to-do people cannot take to the suggested improvements it logically follows that the poorest can hardly carry them out. What Agricultural Department appeals to is not the spirit of sacrifice but the desire to improve and live better. This latter instinct is better developed in a well-to-do man and that is just the reason why our propaganda will achieve spectacular results among this category of persons.
- 24. While trying to improve the lot of the farmers the Agricultural Department must look with special favour on those agriculturists who have improved themselves without any effort on its part. The middle class and richer farmers stand in the greatest need of scientific advice. They have the means and a desire to introduce improvements but the correct way of going about the business is not clear to them.
- 25. One can easily go into the districts and see ill-planted orchards, wrongly dug wells, ridiculously expensive cattle sheds and so on all due to lack of guidance and advice. All this means so much of energy wasted and enthusiasm mis-employed I plead for a thorough and efficient organisation of advisory services and a change of outlook in the personnel of the Agricultural Department enabling them to be more friendly and less suspicious of the better class of farmers. I do not mean that small men should be neglected but I only repeat that easier things may also be done to achieve results and to gain a foot-hold.

- 26. The impression in administration circles that an Agricultural Graduate is only a technical man should be corrected early. Agriculture is not only a Profession but Essentially a way of Life. For any purpose he is as well qualified as any other science graduate. Even in languages he is as good as any other Intermediate of a University and, therefore, there is no reason why he should be thought fit for Agricultural Department alone.
- 27. Knowledge of Agricultural, science must be made more widespread. Revenue Inspectors, staff of Co-operative Department and all other men working in rural areas may be recruited from among agricultural graduates. Village officials should be taught the elementary principle of agricultural science and may be required to answer a paper or two on agriculture as a part of the examinations now conducted to test their eligibility.
- 28. Civil Service Rules should be altered if necessary to enable the graduates of agriculture to compete for the said service. Indeed attempt must be made to draw the brilliant men of these colleges into the higher ranks of service. All this will induce confidence in the men of the Agricultural Colleges and the Institutions in their turn will be able to attract the cream of country's intelligentia.
- 29. There can be no progress, so long as study and practice of agriculture is kept as a job of the poor and the unintelligent.
- 30. Our greatest hope lies with the next generation and nothing could be more imprudent than neglecting a man during his impressionable age and trying to teach him when he is either too old to learn or too used to present day practices to take to anything new. Schools have to be tackled, teachers must be trained and farm work must find a definite place in the schools' timetable. A small farm must be attached to every school and steps must be taken to interest the boys in improved implements and practices. What a boy learns in his boyhood he will not easily forget and if we can make the millions of children carry into their adolescence a bias and a partiality for scientific farming we will have won greatest battle.
- 31. In suggesting these various things I plead for a policy of saturating the atmoshpere of Hyderabad with agricultural information so that it may not any longer be a novelty but a common place knowledge.
- 32. Ours is an agricultural country and, therefore, we need not feel ashamed of giving preference to agricultural knowledge as against the knowledge of stars, the moon, the minerals and as a matter of that of English, Roman and Greek history. It will be an act of faithlessness on the part of the urban population not to study and appreciate the problems of a community to which it owes all the finer things of life.
- 33. We are used to seeing most of our ambitious schemes crash on the bedrock of finance. When it is a question of improving agricultural and raising the standard of life of a farmer it is a most short-sighted policy to allow finance to stand in the way. Both as producers and consumers the farming population of Hyderabad—contributes the greatest part to the public exchequer. All these years they have been unfairly treated inasmuch as nothing in proportion to their contribution has been spent for their benefit. The time has come when their productive efficiency is perceptibly on the decline and any further tinkering with the problem will mean a first class disaster to our very existence as a self-sufficient economic unit. I would rather see the town improvement schemes, arts faculties of the University, civil aviation, construction of public offices and other like activities starved than contemplate the refusal to organise vital services to the farmer on the plea of lack of finance.

APPENDIX 10.

From: 'The Theory of Economic Growth'

W. ARTHUR LEWIS

Agricultural Research:

"There is no doubt that one of the main deficiencies of underdeveloped countries is their failure to spend adequately upon research, and upon the development of new processes and materials appropriate to their circumstances. Part of the reason for this is institutional. In industrial countries private entrepreneurs spend great sums on industrial research, because they hope it will pay them to do so. underdeveloped countries, on the other hand, are agricultural. Where their agriculture includes large commercial companies, these companies have invested in research (e.g. rubber, bananas, sugar) either individually or collectively, but, in all that part of their agriculture (the major part) which is not organized on the basis, there are no private interests financing research. It follows that almost the whole of the research expenditures needed in these countries (i.e. excluding mining and commercial agriculture) has to fall upon the public purse, whereas in industrial countries research can be thought of primarily as a matter for private interests, with the government plugging gaps, in underdeveloped countries research is primarily a matter for governments, and ought to be one of their major fields of activity.

How much ought they to spend? This is of course an unanswerable question. Current expenditure on industrial research and development in the United Kingdom is estimated at a little under one per cent of the income generated in industry. In the United States industrial research is at a similar level, while agricultural research is a little less than one half of one per cent of the net value of agricultural output. On the same basis it would not be unreasonable if the underdeveloped countries were to spend on research of all sorts (technical, social, health, etc.) a sum equal to between ½ and 1 per cent of their national incomes (not to be confused with government expenditure). There is no firm basis for such a suggestion. All the same, current expenditures, which do not reach a fraction of this level, are clearly too low.

(b) Agricultural extension:

Agricultural education illustrates very well several points which we have just discussed, namely the problem of priority, the role of the partially trained, and the importance of enthusiasm.

As for priority, expenditure on bringing new knowledge to peasant farmers is probably the most productive investment which can be made in any of the poorer agricultural economies. For raising the productivity of the soil is in most places the surest and quickest way now available of increasing the national income substantially. For example, some agricultural experts assert that agricultural yields peracre could be doubled in India, by the application of techniques now known—the most important sources of gain being better seed selection and control, more use of critificial fertilizers, greater use of pesticides, and better conservation and utilization of water supplies. Such striking possibilities are not open everywhere, because the gap between what is known to the experts and what is done by the farmers is not everywhere as great as this. In many places, however, this is merely because there has been failure to do necessary research on food production. For reasons already mentioned, agricultural research in the tropics has concentrated upon the commercial crops which are exported to industrial countries (sugar, cocoa, rubber, tea, etc.), and has almost wholly neglected what is produced for

home consumption (yams, cassava, sorghums and the like) despite the fact that in nearly all these economies the manpower and acreage devoted to food production is four or more times as great as that which is devoted to commercial crops.

Research is a pre-requisite to extension, so where the basic research has still to be done, there is not yet scope for agricultural extension. However, once the knowledge becomes available, the need for extension workers is tremendous. If we assume that there should be one extension worker to every thousand persons gainfully employed in peasant agriculture, that two-thirds of the population are so employed, and that to maintain an extension worker costs four or five times as much as a farmer receives, then the cost of the service, including supervisory staff works out at more than a quarter of one per cent of the national income. Add to this the desirable cost of agricultural research [this chapter, section 1 (b)] and we arrive at the conclusion that the Department of Agriculture should be spending on research and education somewhere between three-quarters and one per cent of the national income. The United States of America maintains something like this ratio of service expenditures to agricultural income; it has one extension worker to every 700 persons gainfully occupied in agriculture, and it spends upon agricultural extension and research about three-quarters of one per cent of net agricultural output. The United Kingdom also has a ratio of 1 to 700, but among the poorer countries of the world the only country which spends at this level upon agricultural services is Japan (it is also the only one which has had spectacular increases in peasant productivity).

If an annual expenditure of one per cent of national income per annum could increase agricultural productivity by one per cent per annum (equivalent to one half of one per cent of national income) this would be an extremely productive investment, since it is equivalent to a return of fifty per cent per annum. The increase in productivity cannot be credited exclusively to agricultural extension, since capital has also to be provided, for water supplies, tools, fertilizers, etc. However, even when allowance is made for other needs, this complex of investments is the most profitable that agricultural countries can make. The rates we have used are well within the bounds of possibility. In Japan between 1880 and 1920 productivity per acre grew at a cumulative annual rate of 1.3 per cent per annum. Rates of one per cent have been attained also by England and by the United States. Countries which start with a much wider gap between what is known and what is done should have no difficulty in achieving spectacular yields from what they spend on agricultural services.

In order to provide agricultural service at this rate there would have to be a tremendous expansion in the number of agricultural officers. Many very highly trained people would be needed for research, and also to supervise the extension service, but the biggest expansion of all would be among the extension workers themselves, since one is needed for every five to ten villages. It would be impossible to provide these numbers if each had to be given a full University education in agriculture. But it is also unnecessary and undesirable to have University graduates for this work. It is unnecessary because the extension worker's job is only to transmit to the farmers techniques which have been thoroughly tried elsewhere. He needs to have his wits about him, and to know a good deal about practical agriculture, since he will otherwise be ineffective with the farmers. The best training for this is to have worked on a farm himself, doing all the farm jobs, and then to have spent a year or at most two being trained in the new techniques. It is also undesirable that the officer be a university graduate since his main problem is to make contact with the farmers and be accepted by them and this is much more difficult for a university graduate than it is for someone whose background is not far removed from that of the farmers themselves.

The extension officer's main problem is to make contact; not just social contact, which is easy enough in village communities, but that contact of minds which results in imitation. For example, the main work of extension officers used at one time to be done on demonstration farms, owned and operated by the agricultural service.

These farms cultivated the best plants in the best ways, and farmers were invited to visit them and to see the results for themselves. Even when yields were very high the farmers did not always imitate what they were shown. They argued that the results achieved on the demonstration farm would not necessarily achieved on their own holdings. Perhaps the farm had been specially selected for soil or other qualities; perhaps equipment was being used, which the ordinary farmer did not possess; or perhaps the workers on the farm had had special training, or were receiving special supervision which would not be available on the peasants' holdings. To get round these difficulties, modern extension techniques supplement the demonstration farm by persuading a few farmers to try out the innovation themselves on their own holdings. It is then clear to the remainder that good results have been achieved by farmers just like themselves on holdings just like their own. The success is no longer the success of a remotely controlled institution; it is the success of their neighbours, and hence it calls for gossip, interest, investigation, discussion, and emulation. One of the first tasks of the newly arrived extension officer is now to find out which farmers are most respected in the district, and most likely to be imitated, and to try to enlist their co-operation in the campaign he has in hand.

There is a world of difference between doing extension work in a community where the farmers are not used to the idea of technical change, and doing it in an environment where farmers look naturally to the scientist to solve their problems. In an advanced community like England or the United States the farmers know that the geneticists are breeding better varieties, that the entomologists and the pathologists are producing ways of controlling pests and diseases, and that manufacturers of machinery are constantly introducing improved equipment. They are keen to hear about these things, and so they subscribe to farm journals, they listen to radio programmes for farmers, and they attend meetings of farmers' clubs. In these ways new ideas are disseminated rapidly. The extension problem in backward communities is to create a similar atmosphere, in which the farmers look upon the agricultural officers as an essential part of the agricultural community existing in order to make life easier for the farmer. Part of the secret of this consists in getting the farmers to form agricultural societies, for discussion, for visiting each other's farms, and for demonstrations. The other part consists in really having something to offer. If the extension officer succeeds in solving some problem which has worried the farmers—some disease for example—he will gain their confidence; whereas if nothing comes from taking his advice, the farmers will not take him seriously".

APPENDIX 11.

Irrigation Development

It is now widely accepted that, while the bulk of expenditure is incurred in constructing reservoirs and excavating canals and distributaries, the benefits do not begin until the water so made available is utilised by the land-owners under the irrigation work. The time-lag between creating the potential and the utilisation of such a facility has been unduly long. The Planning Commission is agitated over this, and the result has been the appointment of a team of Engineers to investigate the causes. The causes may be slightly different in different places, but to a large extent these are common under all major irrigation projects. The dry land ryot is incapable of using the water unaided by Governmental agencies, whether it be in relation to the technical knowledge or the where-withal to clothe such an advice with action.

It is the job of the State to evolve and recommend suitable varieties, determine and advocate correct agronomic practices and plant protection methods. The State or the Trade must provide supplies mainly in the form of fertilisers, implements and power. Communications will have to be improved and suitable village sites provided. While all this has to be done by the State, the individual himself will have to level his land and build up the fertility of the soil. He requires credit not merely for positive investment on land but also for his own consumption while he is putting in his personal and family labour to develop his land. This credit is needed on a very massive scale and today there is no other agency except the State which is competent to do the needful.

Apart from the problems mentioned above, irrigation development gives rise to a host of other problems too numerous to mention and too difficult to foresee. If the time-lag is to be reduced to a minimum and the invested capital is not to remain locked up in the area, it is necessary that, when the project is being investigated on the construction side by the Engineers, Economists and Agricultural Experts must also investigate the problems of developing the area on the basis of optimum utilisation of land and water resources. These two reports as also the estimates of cost must be treated as pertaining to a single project and must be viewed as such by the Government concerned. The reports of Administrator and Economist may raise problems on which a policy decision is needed by the Government, and all such policy decisions must be taken before the first clod of earth is lifted at the site. I do feel that the only way in which our irrigation development can keep pace with the creation of irrigation potential is to adopt this method.

To summarise, the process would be as follows:

- (i) The Engineers investigate the feasibility of constructing a project and make a summary report to the Government.
- (ii) A committee with economists and agricultural experts on it investigate the problems that are likely to arise in the course of development and make estimates of the amount needed both on Government account and for the purpose of advancing as credit to the people of that area.
- (iii) The estimates for construction and development are compiled into a single report with a prominent mention of the points which need policy decisions by the Government.
- (iv) The Government announces its policy decisions and sanctions the estmates together.

(v) the Administrator takes charge of the construction and development of the area and proceeds with the work in a balanced way, developmental work keeping pace with the progress of construction.

Nagarjunasagar represents an improvement over the previous project like Tungabhadra. The administrator is already in saddle and I think he is expected to take balanced view of the project as a whole—construction and development. Even here, no steps have so far been taken to create an extension service or equip it with appropriate knowledge for the purpose of instructing the cultivators in the area. Before the instruction actually begins, considerable amount of work has to be done—research farms must gather knowledge; the experience gained and such knowledge must be imparted to the extension personnel; an extension organization has to be set up, and it is only then that actual instruction to the people of the area could begin. While more than 20 crores have gone into the construction of the project, it is a sad commentary that the research farm of 400 acres proposed for that area has not as yet been sanctioned.

Indeed, we could profitably make another suggestion that, at this point of time, when the lands are fairly cheap, the Government should enter the market and freely purchase land for all the experimental and seed farms they may need. 30 lakhs of acres are likely to come under irrigation. Half per cent of the area would be about 15,000 acres and such an area could be purchased in different blocks at the rate of 50 acres per 10,000 acres proposed to be brought under irrigation. These little farms of 50 acres each could be developed into demonstration farms at State expense. Once the whole area gets developed, this could either be retained or again sold in open market at tremendous profit. 15,000 acres turned into farms may not cost more than 75 lakhs in capital investment (price plus cost of development). The advantage of such small farms all over the area would be not only to test the efficacy of our technical advice before it is actually put across to the ryot but also to train up a team of development experts who may go from one project to another ahead of actual development. A capital expenditure of 75 lakhs on a matter like this for a project which may not cost less than 150 crores cannot be excessive. If a special organization can be created for its purpose and money advanced to it at 6 per cent, I have no doubt whatsoever that at the end of a 20-year period this organization can return back to the exchequer the whole amount along with interest.

One of our biggest misfortunes in this country is that the need for science in agriculture is not accepted to the extent to which it is necessary.

APPENDIX 12.

Note on priorities to be given for construction of irrigation projects and improvement of drainage works.

It is by now accepted that, whenever the value of any land or property goes up due to any work carried out by the State at public expense, the State, in return, is entitled to a share in the enhanced value. Basing on this principle, Acts have been passed providing for levy of a betterment tax. This has also been called "Inclusion Fee" in the case of dry lands that are included in the ayacut of irrigation works. This Committee has also considered this problem in its various aspects and made appropriate recommendations.

The application of even this Act is not very simple, when the dry land is converted into wet by the waters of an irrigation source newly constructed. There has been some difficulty in assessing the enhanced value and deducting therefrom the cost of conversion of the land and accurately determining the enhancement due to the public work. In the initial stages of the construction of a reservoir, the supply of irrigated land is far greater than effective demand, and, therefore, there is a depression in values. As an escape from these difficulties, another concept has also been enunciated; this is of capitalising the difference between the income derived from the land when it was dry and when it is converted into wet.

With the increase in population and spread of consciousness among the people, there is a very great desire among the rural population to raise their living standards; and since the spread of irrigation is the quickest means to that end, there is a persistent demand from all parts of the State that the irrigation facilities may be expanded at a rapid pace. Indeed, the demand is so great that it is beyond the normal resources of the State to satisfy it in any appreciable degree. It, therefore, becomes necessary that the State should fix priorities and provide irrigation in a predetermined order.

Of the 20 districts of Andhra Pradesh, 5 districts in Andhra, namely, East and West Godavary, Krishna, Guntur and Nellore, and one District in Telangana, namely, Nizamabad, stand out very prominently as the heavily irrigated districts. The highest priority should now be given to districts which are poorly provided with irrigation. Districts like Anantapur in Andhra and Mahabubnagar in Telangana deserve special priority. In any case, for a long time to come, it would not be fair to divert moneys to a further growth of irrigation in the six districts mentioned above, where the irrigation intensity is already very high. These very In the tours, representations have districts have also the problem of drainage. been made to this Committee that the drainage problem is assuming menacing proportions; and if all the benefits of irrigation are not to be undone, there is a very urgent need for attending to this. Besides, more, in these very districts there is demand for improving the quality of irrigation as also the spread of it: for example, Nellore is clamouring for Somasila; Godavaries for Sabari; Nizamabad for Devanoor; Krishna is expecting protection from Nagarjunasagar; and the erstwhile Pithapuram Estate areas want irrigation under the hill stream (Yeleru) stabilised by a reservoir across it. Nizamabad, in addition to asking for Devanoor, has pointed out several cases where, at a little expense, it would be possible to extend irrigation. Such examples are too numerous to be mentioned in a short note of this type.

In each one of these cases, the people who made the demand offered to pay a substantial part, if not the whole, of the expenditure, as a contribution for the construction of these works. If this offer is seriously made—and I have no doubt

whatsoever that at this point of time they are extremely serious about it—it would be unjust to the people of that area and to the country as a whole not to take up those works. While I do feel that it may not be correct in principle to give priority to these works in the normal course against the demands from dry districts, it is equally wrong to delay the construction of these works when there is an offer from the local people to bear the cost of it. It is, therefore, necessary to devise a method by which these could be taken up.

When we stabilise the irrigation of an already irrigated area or convert a single crop into a double crop area or provide water earlier in the season by ensuring a carry-over of water from the previous season, it is next to impossible to determine the enhancement in value of land and to collect betterment levy on that basis. It has also been the experience that, when construction is undertaken in the hope of collecting the local contributions, these promises are never voluntarily fulfilled after the construction.

In Hyderabad, there is a Land Improvement Act, under which the Land Improvement Board constituted by the Government can declare any work as a work of land improvement, carry it out at public cost, and then collect the money from the beneficiaries. I would suggest that the provisions of this Act may be invoked in situations where people make a demand for an irrigation source at their own cost wholly or in a larger part. This Act may have to be amended slightly to provide for a procedure somewhat as follows:

The Government may make a summary investigation into all demands such as have been mentioned earlier, and on being convinced that there is a sufficient amount of public opinion in favour of undertaking such work at the cost of the beneficiaries, the work may be sanctioned. A scheme may be prepared with the proportion of the cost to be borne by the beneficiaries fixed along with the method of recovery. Once this is done all the land-owner slikely to be benefited may be asked to vote 'yes' or 'no' with regard to the scheme; and once 3/4 of the owners owning more than 2/3 of the land vote 'yes', it must be possible under the amended provisions of the Land Improvement Act to enforce such decision on the whole area. The work can then be undertaken and the local contributions, already determined as a part of the scheme may be collected. The Land Improvement Act, and this referrendum carried under it, would give a legal sanction to the collection of local contributions.

It would then be possible to advance the moneys needed for carrying out such works from a fund created for the purpose and this fund can be reimbursed from the collections made thereafter and partly from the general revenues, if a part is to be borne by the State. It is generally seen that some of the works can be carried out in these prosperous districts with very good financial results both to the Exchequer and to the people in that area. While generally Rs. 500 are needed for every acre brought under irrigation giving an yield of about 1,000 lb., a year, some works carried out in these districts would give one acre for every Rs. 100 or Rs. 200 and the increase in yield might even be higher than 1,000 lb., per acre, and this increase would be attained almost instantaneously.

In the normal course, it may be difficult to give priority to works in these districts. A way-out has got to be found, and if this way is accepted with such modifications as are necessary, then we could add to the prosperity of these areas without generating discontent in the poorer districts. This is all the more advisable because these districts are definitely more prosperous and can afford to finance their own development, and the people voluntarily agree to pay.

This is not an entirely novel idea. We have a Pest Control Act in some States of India where we compel all cultivators in an area to compulsorily take to recommended plant protection methods. Soil conservation schemes have been undertaken in areas involving the compelling of recalcitrant elements. United States affords a very good example of the application of this principle. Wheat-growers periodically have got to vote 'yes' or 'no' as to whether they would prefer price support along with quotas for areas to be sown to wheat or no price support with freedom to sow any area they like to that crop.

Any failure to do some such thing both with regard to expansion and stabilisation of irrigation or improvement to drainage works in these districts would result in stagnation in those areas.



APPENDIX

Rain-

		1915	1916	1917	1918	1919	1920	1921
Anantapur	••	28.80	33.42	32.77	19.22	28.95	12.42	24.18
Chittoor	••	43.60	35.83	37.14	30.76	40.83	32.51	32.75
Cuddapah		32.61	40.00	37.93	21.28	31.92	25.61	29.89 [.]
East Godavari (Agency)		••		••	••	• •	• •	48.04
East Godavari		44.29	62.32	61.58	33.29	46.93	30.73	41.08
(Plains) Guntur		46.75	50.97	46.16	30.45	28.09	24.28	35.06
Krishna	••	51.48	50.19	55.76	30.05	40.51	26.26	44.35
Kurnool	••	31.44	48.50	31.66	20.62	28.73	14.99	21.88
Nellore.	••	48.25	36.82	51.39	46.16	39.06	40.12	32.95
Srikakulam	••	• •	1			• •		• •
Visakhapatnam	••	40.88	40.88	40.81	40.81	39.83	39.83	39.59
West Godavari	••	57.12	63.20	56.99	28.24	46.02	26.74	44.97
Adilabad	• •	36.84	35.69	46.99	24.57	39.18	18.40	47.12
Hyderabad	٠.	48.81	50.98	37.42	22.26	36.90	21.60	28.19
Karimnagar		••	36.75	44.72	21.33	45.36	15.32	33.59
Khammam						• •		••
Mahbubnagar		38.79	55.06	44.55	15.75	29.34	18.40	24.15
Medak	••	38.31	48.58	51.57	29.42	32.59	13.67	28.85
Nalgonda	••	48.73	59.05	36.92	24.87	-29.15	24.48	25.97
Nizamabad	••	38.97	39.14	57.83	26.50	31.47	24.65	46.49
Warangal	••	40.16	48.21	51.74	22.35	43.98	15.14	43.31

13. fall

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1922	1923	1924	1925	1926	1927	1928	1929	1930
17.59	12.51	21.18	23.54	19.24	22.86	22.21	24.20	26.43
38.17	22.80	32.05	36.46	33.44	26.07	31.84	31.38	52.22
28.65	16.93	24.96	33.53	25.40	25.90	24.64	26.01	35.68
47.14	52.82	48.06	57.50	44.63	48.55	47.29	38.92	48.13
32.52	51.70	56.50	55.25	42.22	40.24	42.18	35.91	57.12
32.10	28.15	31.61	39.90	21.73	35.41	33.57	22.75	39.61
32,43	34.49	40.46	45.63	27.83	39.72	34.73	28.71	51.06
18.93	21.08	22.27	28.41	18.60	26.79	24.58	20.34	23.76
40.40	29.45	37.58	52.52	26.30	33.15	32.27	33.87	54.62
••	••	<i>:</i> .			1	••	•••	• •
32.43	49.04	46.18	47.97	35.24	43.63	52.27	38.44	45.23
32.75	50.25	43.73	49.34	34.08	43.86	37.71	33.71	49.68
• •	••	• •	7	32.94	41.73	40.43	35.14	34.39
24.85	24.12	28.02	34.38	23.03	35.98	32.58	22.81	27.27
41.04	25.43	39.81	48.32	27.24	35.88	36.91	32.43	35.35
• •	• •	• •	••	• •	••	• •	••	••
20.13	24.51	28.02	32.98	29.84	31.83	32,24	19.72	30.27
24.75	24.00	27.25	39.90	29.43	26.42	30.82	25.38	27.14
34.31	21.32	33.27	28.22	16.62	34.92	33.78	27.43	21.55
37.67	31.15	34,43	32.22	36.63	35.73	62.20	32.07	32.40
34.67	33.92	43.88	54.54	29.64	39.98	42.51	33.07	38.69

APPENDIX

Rain-

	1931	1932	1933	1934	1935	1936	1937
Anantapur	 15.35	22.28	26.06	12.06	23.82	21.53	22.17
Chittoor	 35.77	31.03	30.30	30.69	34.64	33.94	41.46.
Cuddapah	 22.33	19.63	23.35	21.04	28.92	23.52	26.96
East Godavari	 58.68	48.56	56.57	45.36	43.43	63.23	48.09
(Agency) East Godavari	 50.47	42.16	42.22	35.59	33.36	61.93	37.46
(Plains) Guntur	 37.93	34.59	33.57	29.04	23.69	41.02	30.54
Krishna	 43.06	37.57	42.08	30.80	30.71	46.03	32.68
Kurnool	 23.66	22.47	27.01	20.18	26.70	23.78	24.90
Nellore	 42.75	31.74	37.19	29.22	28.41	40.67	38.32
Srikakulam	 	. 16.				• •	
Visakhapatnam	 52.71	37.47	42.87	36.41	27.31	48.97	34.89
West Godavari	 48.51	46.14	49.97	30.82	34.70	57.31	33.48
Adilabad	 46.48	42.40	59.53	42.58	37.59	50.17	41.03
Hyderabad	 37.12	28.69	45.44	22.31	25.32	27.58	28.14
Karimnagar	 40.07	37.22	73.11	48.89	37.41	49.11	38.54
Khammam	 	• •	• •	• •	• •		
Mahbubnagar	 20.94	28.75	34.45	26.69	25.86	28.64	22.75
Medak	 35.60	28.81	50.92	29.61	37.51	36.77	34.00
Nalgonda	 26.95	29.58	35.83	24.98	25.53	33.43	28.45
Nizamabad	45.27	33.81	53.62	42.16	40.15	49.94	38.17
Warangal	 45.66	36.71	50.84	40.41	32.96	49.97	31.32

13.—(Contd.)

fall

1938	1939	3940	1941	1942	1943	1944	1945	1946
29.03	21.51	26.28	21.54	13.44	20.89	24.19	14.48	24.25
25.71	40.98	40.67	33.34	25.13	51.06	48.87	25.98	45.25
26.28	26.94	38.10	25.82	22.25	39.92	34.86	20.92	35.02
52.81	43.09	52.36	37.24	42.07	39.32	42.37	58.33	50.08
50:32	55.50	42.87	52.19	40.34	39.32	49.58	42.79	34.94
34.27	43.34	37.68	30.58	20.71	33.62	41.74	32.09	38.49
43.73	43.30	41.80	33.48	26.35	35.97	41.95	32.49	39.47
29.45	25.08	30.20	18.26	19.31	28.99	28.83	24.41	29.12
25.21	44.93	53.24	33.04	29.08	50.09	53.41	24.63	58.58
• •		• •	• •		! ··	• •	• •	• •
49.19	33.48	44.46	39.72	36.09	40.96	39.80	39.38	37.32
46.39	49.33	41.63	40.73	38.54	44.77	47.16	37.43	37.11
56.16	34.92	43.61	25.26,	41.57	34.50	41.20	42.84	34.95
30.97	22.61	24.55	18.54	27.43	33.11	33.91	40.43	26.63
47.40	83.78	34 32	19.62	34.65	34.98	35.95	32.60	37.26
• •			••	••	••			••
37.94	21.12	32.37	15.82	36.51	27.87	28.32	24.41	29.81
48.06	25.42	27.46	22.24	28.62	35.39	31.53	40.44	31.04
25.07	26.37	.31.29	. 18.19	24.37	28.32	28.04	28.80	22.99
53.61	28.81	.42.24	29.32	45.50	41.90	37.30	38.51	36.27
41.23	27.06	48 63	25.65	36.32	35.84	36.91	40.86	40.20

APPENDIX

Rain-

		1947– 1948	1948- 1949	1949- -1950	1950- 1951	1951- 1952	1952- 1953	1953– 1954
Anantapur	•••	21.20	19.10	24.80	21.70	15.00	15.80	28.10
Chittoor		26.20	31.20	33.00	29.20	24.60	29.50	37.00
Cuddapah		25.40	21.00	28.10	19.70	21.00	20.00	29.80
East Godavari (Agency) East Godavari		59.30 49.60	48.00 ²	53.90	50.80	45.20	30.10	35.20
(Plains) Guntur		35.70	31.00	41.50	27.00	26.80	20.60	31.10
Krishna		43.00	38.90	45.70	34.20	35.20	24.00	33.70
Kurnool		33.70	24.60	33.70	22.70	31.60	14.70	20.70
Nellore		25.00	34.10	32.10	32.50	32.60	24.10	38.30
Srikakulam				N.A.	38.70	41.80	39.20	46.90
Visakhapatnam		48.50	39.90	48.50	35.10	41.50	38.10	37.10
West Godavari		49.50	42.90	53.70	46.90	41.50	28.60	41.20
Adilabad		40.83	36.79	53.45	*26.54	33.52	28.64	53.83
Hyderabad		35.03	30.76	24.86	33.88	26.95	16.77	31.46
Karimnagar		40.79	37.80	37.31	29.35	32.05	26.35	45.29
Khammam		• •	• •	N.A.	N.A.	N.A.	N.A.	6.67
Mahbubnagar		38.07	24.31	33.65	27.22	30.22	19.47	32.76
Medak		36.04	33.42	37.65	29.18	29.92	23.02	39.92
Nalgonda		33.33	20.22	28.12	26.99	23.41	19.16	31.17
Nizamabad		40.20	49.35	45.14	32.22	40.14	24.44	54.91
Warangal		46.30	31.05	41.25	35.37	36.32	25.90	45.15

13.--(Contd.)

fall

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	1954– 1955	1955 1956	1956	Normal
,	21.10	24.90	27.03	22.40
	41.50	28.00	29.18	33.70
	35.20	30.60	35.64	27.10
	52.40	42.40	48.64	41.80
	38.60	33.70	42.72	32.40
	46.70	45.10	53.79	37.00
	25.20	31.60	35.95	24.20
	44.70	21.60	47.58	35.50
	46.30	58.80	57.38	42.7
	59.00	48.70	54.88	39.00
	53.60	46.50	47.74	40.70 लन्यपेव ज्यते
	39.81	31.30	50.42	41.7
	27.23	43.70	40.83	30.4
	32.27	40.80	44.85	35.0
	40.75	45.80	41.41	37.9
	30.92	57.60	42.43	28.4
	36.52	60.60	49.35	36.3
	32.46	50.10	37.78	26.8
	36.79	41.00	56.84	41.5
	37.57	53.90	40.60	38.2

APPENDIX 14.

Notes on drainage problems in Andhra Pradesh

INTRODUCTION

Physical Features.—The State of Andhra Pradesh consists of a part of Deccan Plateau with its level from plus 1,900 to adjoining the coastal districts of Nellore, Guntur, plus 400 Krishna, East and Guntur, and extending from the Srikakulam Godavari, Visakhapatnam Eastern Ghats to the Delta head roughly at a level from plus 400 to plus 50 and deltaic tracts of Godavari, Krishna and Pennar, with a coast line of 540 miles length popularly known as Coromondel and Circars coast. The slope of the country from the western part of the State to the head of the Godavari and Krishna deltas is nearly 10 ft. / mile and does not present any difficulties for drainage.. But from the head of the Godavari and Krishna deltas to the Sea the slope is only l ft. / mile and the country is low lying, having a very poor drainage. Normally even if there is no obstruction the drainage and the flood waters find their way to the Sea with some difficulty because of the flatness of the country. The first obstruction to the drainage is the contour canals of the two deltas viz the Samalkotah, the Godavari and Krishna—Ellore canals and the Commamur canal. The second obstruction is the Southern Railway line. The third is the sand dunes formed near the coast through which all drainages have to pass to Sea cutting them and as the velocity of the water is negligible, the drainages take a winding and tortuous course to reach the Sea.

2. Due to peculiar geographical and topographical features of our State, large tracts of areas in the coastal districts suffer from chronic drainage congestion, which affect agricultural production more or less seriously. Such areas amount to nearly a lakh of acres in Godavari and Krishna deltas. The drainage needs of these areas are catered to by some 2,000 miles of drains.

BELLE SUE

The improvements to these drains have not received the attention they deserve due to paucity of funds. The drains in the two deltas come under the following categories.

- (1) Drains entering the sea directly like East Tungabhadra stream, Nallamada drain, Romperu drain, etc. in Krishna Western Delta, the Biccavolu and the Tulyabhagh drains in Godavari Eastern Delta.
- (2) Drains which enter a creak or arm of the river such as the Teki. Pekeru in Godavari Eastern Delta, the Sankaragupatam, Antervedi, Pedatippa, Upper and Lower Kowsika, the Inapuram, Kunavaram, Rangarajucodu, Vasalatippa and Panchanadi drains of Godavari Central Delta which is by far the most abutted, the Nakkala drain and Kaja in Godavari Western Delta and the Yenamadurru drain with its outfall into the Upputeru.
- (3) Drains entering Collair lake which is a natural depression between the two deltas of Godavari and Krishna like the Budameru, Ramileru, East and West Thammileru, Polraj and Chandrayya drains, etc., in Godavari Western and Krishna Eastern Deltas.

- 3. (1) The Coromondel coast line from about 50 miles north of the Pennar infall to about 50 miles south of the Krishna mouth is almost steady and there is not much of littoral drift of sand. Consequently the straight cuts to sea for drains at their tail-reaches like East Tungabhadra, Romperu, Nallamada, Battiprole, etc., function effectively if straight cuts are excavated. For the first Three drains the straight cuts excavated have been successful and for the fourth viz. Battiprole, proposals are under consideration of Government. From about 50 miles south of the Krishna infall up to Kakinada the deltas of the Godavari and Krishna have advanced into the sea and consequent increase in the length of the drains has resulted in a very little surface fall and poor functioning of drains. There is no drainage trouble in any irrigated areas north of Kakinada as the sea coast is fairly in a continuous straight line and all streams and rivers have adequate falls from their sources to the mouth.
- (2) With regard to lowering of Collair lake level to enable the drains falling into it, function effectively, several schemes have been formulated, and are under way. The most important of these schemes are the widening and deepening of the Upputeru, the only outlet from the lake to the sca, and detention reservoirs on the upland streams such as Budameru, Thammileru, Yerrakalva, etc. The former is under execution while proposals have been submitted for sanction in regard to the lattet.

With regard to drains falling into Upputeru such as the Yanamadurru drain, though some difficulty is experienced due to high levels in Upputeru due to swelling up of the Collair for which the Upputeru is the only outlet and due to backing up of water in Yenamadurru drain, the submersion of paddy crops adjoining these drains is up to 7 to 8 days which is the maximum period the paddy crop can withstand.

- (3) Drairs entering the Godavari and Krishna through the outfall sluices.—Important examples are Nakkala drain, Kaja drain of Godavari western delta. Due to high floods in Vasista Godavari which is also tidal, the outfall sluices are closed when there are high floods and tides in the river resulting in backing up of the drainage water in the drains causing submersion to the adjoining cultivated lands. This is the most difficult to deal with as we have to fight against nature.
- (1) All improvements to drains are proposed to be tackled in two directions (a) Long term improvements such as straight cuts, deepening and widening of drains for better hydraulic performance based on scientific standards and provision of outfall sluices. In some cases provision of additional drains are necessary to carry the surface drainage water effectively. These improvements may cost more than 10 lakhs of supees for each major drain.
- (b) Short term improvements such as removing silt, shoals, etc. in the ordinary floods, level section of drains, removal of water weeds, easing curves, forming banks to confine the sections. In individual deltas the general problems are:
 - (a) want of proper drainage course,
 - (b) inadequacy of existing courses,
 - (c) overflooding of the drains, submerging the marginal lands due to backing up of floods from the parent drains.

(2) The drains in the Krishna and Godavari deltas are the following:-

KRISHNA DELTA

Western section

- 1. Battiprole drain.
- 2. Repalle main drain.
- 3. East Tungabhadra drain.
- 4. Romperu drain.
- 5. Nallamada drain.

Eastern section

- 1. Budameru river.
- 2. East & West Thammileru rivers.
- 3. Ramileru river.
- 4. Upputeru, and
- 5. Gunderu rivers.
- 6. Polraj drain.
- 7. Chandrayya drain etc.

GODAVARI DELTA

Western section

- 1. Yerrakalva.
- 2. Yenamaduru drain.
- 3. Weyyeru.
- 4. Mondicodu.
- 5. Thokalapalli drain.
- 6. Gonteru drain and
- 7. Mogulturu drain.
- 8. Nakkala drain.
- 9. Kaza drain and
- 10. Bhaggeswaram drain.

Eastern section

- 1. Teki drain.
- 2. Injaram drain.
- 3. Biccavolu drain.
- 4. Tulyabhaga drain.
- 5. Patavala drain.
- 6. Patherlagedda drain etc.

Central section

- 1. Upper and Lower Kowsika drains.
- 2. Krapa drain.
- 3. Panchnadi drain.
- 4. Sankaragupatham drain etc.
- 5. Pedatippa drain.
- 6. Inapuram drain.
- 7. Kunavaram drain.
- 8. Vasalatippa drain.
- 9. Antervedi drain.

5. The problems in some of the important drains are dealt with below:

Battiprolu drain.—The crops on the deltaic lands draining into this drain are subject to poor yields on account of sumbersion due to inadequacy of the discharging capacity of the drain. This was partly rectified by providing additional vents in the bridge at Gudikayalalanka. An estimate for improvements for excavating straight cuts to the drain was submitted to the Government for improving the discharging capacity of the drain fully and to reduce over-flooding and submersion of marginal lands. The improvements proposed in the above estimate will relieve submersion of the marginal lands of about 5,400 acres, thereby improving the yield on these lands by about three bags per acre.

Romperu drain.—Extensive improvements at a cost of over one crore of rupees have been executed to Romperu drain and its affluents for improving the carrying capacity of the drains and to reduce over-flooding during monsoon season, besides relief from submersion of the cultivable lands in the block. An area of about 10,000 acres which was under water previously is now reclaimed for cultivation under the scheme.

Nallamada drain.—Straight cut to the Sea is excavated and drain is functioning satisfactorily, and no improvements are considered necessary now.

East Tungabhadra drain.—Deltaic lands of Doppalapudi, Kasukurru, Chintalapalli, Mulakhundam Nagarjupalli, Yazili and Buddam were worst-affected by submersion during high floods like those of 1939, 1945, 1949 and 1954. It is also reported that a remission of Rs. 13,000 is being granted on an average per year not to speak of the low yield of crop. Improvements to the drain costing about Rs. 16 lakhs are under execution under flood control programme. These improvements consist of excavating straight cuts, providing masonry inlets, improving the section (size) of the drain and improvements to bridges on the drain. It is expected that an area of 10,000 acres will be afforded relief from harmful submersion after the above estimate is executed.

Repalli main drain.—The drain is said to be functioning satisfactorily. For better hydraulic performance, straight cuts have been proposed and it is under correspondence.

In addition to the above major drains there are a good number of minor drains also which require improvements and extensions. Some of these are:

- (1) Drainage facilities to Appapuram project area.
- (2) Excaviting a drainage course of length 1 M.O. 330 feet near Ramabhatlapalem village.
- (3) Improvements to Nagaram south drain.
- (4) Drainage facilities to Peddapalli and Alluru blocks.
- (5) Excavating a swamp drain in Bapatla taluk.
- (6) Improvements to Kollimerla drain.

Estimates for some of the above were prepared and sent to Government and some are under preparation. These estimates when executed will provide adequate drainage facilities to deltaic lands in the Krishna western delta.

East and West Thammileru.—Flood banks are being formed from Eluru canal crossing, up to Collair lake to both arms of Thammileru under flood control programme at a cost of Rs. 10.35 lakhs. These will relieve submersion of marginal lands aggregating to 6,000 acres nearly.

Budameru drainage stream.—This is a river-cum-drain, as it receives the drainage of not only the up-land catchment but also from the delta lands. (a) A diversion channel from this river to drop into the Krishna river is under excavation under flood control programme to divert 7,500 cusecs of the flood discharge of of Budamaeru to Krishna river. This when completed will relieve 23,000 acres of lands in the Collair lake area from harmful submersion. (b) Forming flood bank to Budameru river at a cost of Rs. 35.06 lakhs from the point of diversion to Collair lake is also under execution, under flood control programme. These, when completed will relieve 28,560 acres of lands bordering Budameru from submersion and consequent loss of yield.

Upputeru drainage stream.—This is also a drain akin to Budameru as this is the only outlet from the Collair lake into the Bay of Bengal.

The submersion in and around Collair lake and consequent loss of crop on irrigated lands on the margins of Collair are partly due to inadequacy of the discharging section of the Upputeru to effectively lead away the flood waters brought by the various drains and streams into the Collair. Hence improvements to Upputeru by way of widening and deepening the section to increase the present discharging capacity by 100% are taken up under flood control programme. It is expected that the above improvements will effectively drain the Collair lake.

Improvements to a number of minor drains such as Vatlur drain, Chandrayya drain and Polraj drain etc., that fall into the Collair lake are also called for and they have to be separately considered after watching the effects of the present schemes under execution.

A number of other proposals to improve the other minor drains and to relieve submersion in eastern and central deltas are also under examination by special staff.

GODAVARI DELTA.

Western section.—Almost all the drains in this section except Yerrakalva have been improved and made to function effectively.

Yerrakalva.—Yerrakalva stream brings in a large quantity of flood and empties itself into the Yenamaduru drain which branches into two arms, one arm falling into the Collair lake and the other falling into the Upputeru below the lake. During rainy season both Yerrakalva and Upputeru swell to their maximum resulting in heavy loss of life and property. The successful drainage of this river can be effectively solved only by forming reservoirs on the main river and its tributaries in the higher reaches for which proposals are under active consideration. An estimate for Rs. 51 lakhs for the construction of flood detention reservoir across Yerrakalva has been approved by the State Flood Control Board and is under finalisation. When this reservoir fructifies, the drainage of this tract will have been effectively relieved thousands of acres of delta irrigation from the deleterious effects of submersion and loss of crop.

Eastern section.—The following drains are proposed to be tanked up under the flood control programme to effectively lead the flood waters to the sea or the rivers lower down.

- 1. Patherlagadda drain.
- 2. Tulyabhaga drain.
- 3. Patavala drain.

These when completed will relieve an area of about 6,860 acres from drainage trouble. The Teki, İnjeram, West and East Yeleru and Biccavolu drains in this section have also to be improved.

Central section.—The drains in this section viz., upper and lower Kowsika, Krapa, Panchanadi and Sankaraguptam etc., drains require improvements as these are not satisfactorily functioning now. There are proposals on hand for improving the north flood bank of Panchanadi drain. The improvements to the other drains in this section have also to be taken up in due course.

6. The yield from the existing irrigation in both the deltas can be improved to an appreciable extent by executing various improvements contemplated to these drains. The problem of tackling these drains and improving their condition of working has been engaging the attention of the Engineers and administrators for the last thirty years.

In the year 1953, the question of levying drainage cess of Re. 0-8-0 per acre was considered but it did not meet with favourable consideration by Revenue Department. In as much as the drainage improvement has to be taken up on a large scale, costing a few crores of rupees, levying drainage cess is an urgent necessity. The drainage congestion in deltas will be further enhanced due to increase in ayacuts proposed under N.S. Canals and Ippur project canals abutting the Krishna and Godavari deltas. It will be a great help to the ayacutdars of these deltas if the Government are able to find sufficient funds to execute them and improve these drains effectively for their proper functioning.



APPENDIX
Statement showing the Important Irrigation Projects with their ultimate

S. No.	Name of the project	- m. t	Area irrigated during the 1st plan period	1957-58	
		Ultimate potential in acres		Targets	Achievement
(1)	(2)	(3)	(4)	(5)	(6)
1.	Tungabhadra Low Level Canal, Kurnool district.	1,48,725	19,102	40,000	39,848
2.	Kaddam Project, Adilabad District.	65,000	827	3,600	4,165
3.	K.C. Canal, Kurnool & Guddapah districts	3,00,600	94,332	1,00,000	1,15,874
4.	Paleru Reservoir, Nellore District.	1,428		304	307
5.	Upputeru Lower Anicut Scheme, Nellore Dist.	1,892	व नधने	1,296	1,477
6.	Siddalagandi, Chittoor District.	350			••
7.	Koilsagar Project, Mahboobnagar Dist.	12,000	5,539	7,100	7,100

15. ayacut and targets and achievements in the II Plan (Andhra Pradesh)

	1960-61	1959-60	3-59	195
Remarks.	Targets	Targets	Achievement up to 30-9-58	Targets
(11)	(10)	(9)	(8)	(7)
Hingari cultivation has just commenced. The Target is expected to be achieved by the end of the season.	1,48,725	1,00,000	37,014 up to 30-11-58	65,000
The project breached in August 1958.			8,524–38	9,800
The target for 1958-59 is expected to be achieved by the end of the Second crop season.	2,00,000	1,60,000	97,019–45	1,25,000
	1,428	1,000	21	700
••	व नदन	1,892	1,710	1,700
This project has been completed in all respects and water is also available for supply to the ayacut but the ryots have not yet commenced reclamation of their lands to make them fit for irrigation.	342	250		100
••	12,000	10,000	7,635	9,000

APPENDIX 16.

Statement showing the area irrigated under different types of irrigation sources

						Ner /	Net Area Irrigated by	ED BY		Δrea	Gross
S. No.	District	•	Govt. canals	Private canals	Tanks	Tube wells	Other wells	Other	Total	irrigated more than once	
\exists	(2)		(3)	(4)	(5)	(9)	6	(8)	(6)	(10)	(11)
7	Andhra region.										-
i.	1. Anantapur	:	45,193	699	91,273		65,197	8,600	2,10,926	97,946	3,08,872
7	Chittoor	:	8,319	151	1,76,460		1,00,608	31,662	3,17,200	94,668	4,11,868
m	Cuddapah	:	66,349	160	73,025	:	76,415	11,775	2,28,324	64,544	2,92,868
4.	East Godavari	:	4,74,102	:	1,33,594	:	301	7,819	6,15,816	94,267	7,10,083
5.	Guntur	:	4,49,335	:	45,166	:	10,600	8,854	5,13,955	13,594	5,27,549
6.	Krishna	:	6,38,991	:	1,17,784	:	5,152	4,940	7,66,867	68,299	8,35,166
7.	Kurnool	:	53,664	:	59,956	:	. 10,589	30,413	1,54,322	2,417	1,56,739
∞ i	Nellore	:	2,51,490	779	3,09,034	:	70,974	11,941	6,44,218	1,93,539	8,37,757
6	Srikakulam	:	1,65,717	13,287	2,77,692		25,367	20,328	5,02,391	55,659	5,58,050

								. `						
4,05,429	8,14,734	58,59,115		70,787	1,21,734	3,26,797	1,33,529	2,54,121	2,41 348	2,93,830	3,02,059	3,03,837	20,48,042	79,07,157
51,941	57,911	7,94,785		15,491	13,560	44,762	3,987	23,449	41,175	768,68	47,677	44,434	3,24,432	11,19,217
3,53,488	7,56,823	5,00,433		55,296	1,08,174	2,82,035	1,29,542	2,30,672	2,00,173	2,03,933	2,54,382	2,601 2,59,403	48,259 17,23,610	2,54,194 67,87,940 11,19,217 79,07,157
55,756	14,147	2,05,935		1,744	5,630	19,806	1,409	7,495	3,606	3,628	2,340	2,601	48,259	
40,706	10,251	4,16,160		1,379	44,326	36,901	9,718	41,303	37,212	55,465	14,776	41,068	2,82,148	4,607 6,98,308
:	:	:		:	1,004	583	-58	189	392	1,142	470	692	4,607	4,607
1,35,567	1,13,966	15,33,517		44,382	47,384	1,92,245	90,222	772 1,66,966	106 1,46,244	1,130 1,10,441	741 1,07,449	786 1,99,786	11,05,119	63,571 26,38,636
41,519	:	57,159		:	740	1,932	205	772	106	1,130	741	286	6,412	63,571
79,940	6,18,459	28,51,559		7,791	060'6	30,568	27,930	13,947	12,613	32,127	1,28,606	14,393	2,77,065	31,28,624
:	:	:		:	:	:	:	:	:	:	:	•	:	
10. Visakhapatnam	11. West Godavari	Total	Telangana Region.	i2. Adilabad	13. Hyderabad	14. Karimnagar	15. Khammam	16. Mahabubnagar	17. Mcdak	18. Nalgonda	19. Nizamabad	20. Warangal	Tota1	
10	11		Te	12	13	14	15	16	17	18	15	×		

SOURCE: Statistical Abstract 1956—Table 19 published by the Director of Bureau of Economics & Statistics, Andhra Pradesh, Hyderabad,

APPENDIX 17.

Statement showing the nature and percentage of soils in each district in the Andhra region.

				Nature o	F SOIL	
Distri	ct	_	Regar.	Red Ferrugenous	Alluvial per cent	Arenaceous.
Visakhapatnan	ı (plains) (agency)	• •	21.00	79.00		
East Godavari	(plains) (agency)	••	8.00	33.00	53.00	6.00
West Godavari	i		32.00	29.00	35.00	4.00
Krishna	• •		66.00	6.00	18.00	10.00
Guntur	••	••	90.00	7.00		3.00
Kurnool	• •		60.00	40.00	• •	• •
Anantapur	• •		20.00	80.00		
Cuddapah	• •		46.00	54.00		
Nellore			23.00	32.00		45.00
Chittoor			11.00	89.00		• •

Source.—Report of the Special Officer for the investigation of Land Tenures on the proposals on Land Revenue Reform—Appendix—X.

APPENDIX 18.

Statement showing the number of money rates for Wet and Dry lands and the maximum and minimum rates in each district in Andhra region including the increase made under the Andhra Land Revenue Assessments (Standardization) Act XXIX of 1956 and the Andhra Land Revenue (Additional Wet Assessment) Act 1956.

_		,	WET				DRY	7	
	District	No. of	acı	per e	 Ava	No. of	acre	e per	- Ave-
		Tarams	From	To Rs.nP.	rage		From	To Rs.nP.	rage
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.	Srikakulam District								
	(a) Chicacole Taluk	8	1.31	9.19	4.69	7	0.69	3.19	1.75
	(b) Bobbili. Cheepurpalli, Palakonda, Parvath puram and Saltaluks.	8 ni- ur	2.03	13:22	7.21	9	0.44	3.81	1.81
	(c) Other taluks .	. 8	2.06	13.37		9			1.94
	(d) Palakor da . agency	. 7	2.06	8.44	5.00	8	0.19	2.50	1.35
2.	Visakhapatnam Distri	ct.							
	(a) Gudem taluk .	. 7	2.06	8.56	A. P.	10	0.19		1.90
	(b) Other taluks .	. 8	2.03	13.22		9	0.44	3.81	1.81
3∙:	East Godavari Distric	t.						•	
	(a) Delta .	. 11	4.12	13.50	9.88	12	0.31	8.25	2.81
	(b) Upland .	. 14	1.94	13.50	7.91	12	0.31	5.06	2.00
	(c) Yellavaram .	. 11	1.94	11.34	6.53	9	0.31	2.81	1.50
4.	West Godavari Distric	ct.							
	(a) Delta	. 11	4.12	13.50	9.88	12	0.31	8.25	2.81
	(b) Upland .	. 14	1.94	13.50	7.91	12	0.31	5.06	2.00
	(c) Polavaram .	. 11	2.37	7.22	6.53	3	0.31	0.75	0.56
5.	Krishna District.								
	(a) Delta .	. 11	4.12	13.50	8.97	11	0.31	5.94	2.56
	(b) Upland .	. 7	3.00	10.24	6.94	9	0.31	4.19	1.81
6.	Guntur District.								
	(a) Delta .	. 10	2.06	11.68	7.12	8	0.25	2.87	1.37
	(b) Palnad and . Sattenapalli.	. 10	2.06	11.68	7.37	12	0.31	5.56	2.50

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APPENDIX 18.—(Contd.)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	(c) Guntur, Nara- saraopet, Bapatla and Tenali	10	2.31	13.21	7.81	12	0.31	6.36	2.62
	(d) Vinukonda	10	2.06	11.25	6.61	8	0.25	2.87	2.62
	(e) Ongole-Coast . villages.	22	2.06	13.50	7.31	16	0.25	4.50	1.31
	(f) Ongole other villages.	22	2.06	13.50	7.31	16	0.31	5.37	1.87
7.	Nellore District	22	2.06	13.50	7.31	28	0.25	5.12	2.00
8.	Kurnool District.								
	(a) Kurnool proper	10	2.06	13.50	7.81	8	0.25	2.87	1.31
	(b) Kambham and . Markapur.	10	2.06	13.50	7.81	9	0.25	3.37	1.31
	(c) Patti Konda	100	2.06	13.50	7.81	10	0.25	3.37	1.56
	(d) Koil Kuntla	10	2.06	to the district	7.81	11	0.25	4.50	1.69
	(e) Adoni and Alur	19	1.12	13.50	9.09	8	0.25	2.81	1.25
9.	Anantapur District.		1,5						
	(a) Black soil taluks	11	1.12	13.50	6.88	9	0.12	2.81	1.12
	(b) Red soil taluks .16 Villages transferred from Gooty	}	विभूत: बटारं		6.88	8	0.12	2.00	0.81
	Remaining villages	10	1.12	13.16	6.80	8	0.12	2.00	0.81
	(c) Kadiri taluk	10	2. 6	12.68	7-14	. 8	0.25	2.25	1.06
10.	Cuddapah District.								
	(a) Badvel, Sidhout and Rajampet.	10	2.06	13.50	7.91	12	0.25	4.50	1.81
	(b) Rayachoti	10	2.06	12.68	7.14	8	0.25	2.25	1.06
	(c) Other Taluks	10	2.06	13.50	7.91	11	0.25	4.50	1.87
11.	Chittoor District.								
	(a) Chittoor and Chandragiri.	18	2.56	13.50	8.42	7	0.37		1.25
	(b) Palamaner	14	2.44	8.50	5.25	7	0.37	2.37	1.19
	(c) Madanapalle and Voyalpad.	10	2.06	12.58	7.14	8	0.25	2.25	1.06

APPENDIX 19.

Statement showing the Maximum (16 bhaganna) rates of Dry, Wet and Garden (flow) Taluka-wise in Telengana Region including the Special Assessment.

			Dr	ĽΥ	7	Ver		ARDEN LOW)	
SI. No		Name of Taluk	Max	Rate	Max	Rate			
NO	. the District	Tatuk	Gro- up			Rate I.G.			Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1.	Adilabad @	Adilabad	I II	I.19 0.95	I II	10.92 9.11	I 	9.11	
		(i) Asifabad	I	1.19 0.95	I	7.28	I	7.28	
		Boath		1.16 0.85		6.85	Ι	6.85	
		@Chinnoor	I II III	1.92 1.44 1.19	I II 	10.92 8.19	I 	8.19	
		Khanapur	I II	1.71 1.28	II	8.57 6.85	ĭ 	6.85	
		u Luxshettipet	I II III	1.92 1.44 0.95	II	9.11 7.28	I 	7.28	
		Mudhole	I	2.57	I	12.85	1	12.85	
		@Nirmal	I III IV	1.92 1.45 1.07 1.72		14.57 13.65		10.92 9.11 	
		(j Sirpur	II	1.19 0.95	I 	7.28	I 	7.28	
		(Utnoor	I	0.95	I	7.28	I	7.28	
2.	Hyderabad	Hyderabad East	I	2.78	I	14.57	I	14.57	
			II	2.14	• •	• •	••	• •	
		Hyderabad West	II	2.78 2.14	I 	14.57	I 	14.57	
		Ibrahimpatam	I	2.78 2.14	I 	14.57	I 	14.57	

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APPENDIX 19.—(Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Medchal	I II	2.35 1.92	I II	17.14 13.71			
	(@Pargi	II III	1.80 1.44 1.19	I II	16.39 13.65 10.92	II 	10.92 9.11	
		Shahabad	I III III V	2.57 1.92 1.50 1.28 0.85	III III 	20.57 17.14 13.71	II	20.57 17.14 13.71	
		Tandur	II	2.14 1.92	I II	12.85 10.28		••	
		Vicarabad	І	2.61	I	16.28		• •	
3.	Karimnagar	Karimnagar	i	2.57 2.14		14.57 12.85	I 	12.85	
		Huzurabad	. I	2.57	I	12.85	I	12.85	
		Jagtial	II	2.57 2.14	I II	13.71 12.00	I 	10.28	
		@ Mantheni (Mahadevpu		1.55	2 30		I	9.11	
		Metpalli	स स्ट	1.07 2.56 to 2.14	पने • • •	9.11 17.14 to 12.00	••	••	
		Sirsilla	I	2.78 2.35			I II	15.43 13.71	
		Sultanabad	I	2.89 2.41		14.57 12 75	I 	10.92	
4.	Khammam	@Khammam	I	2.7° 2.16		16.39 14.57	I 	9.11	
		Burgampahad	I	1.28	3		I 	8.57	
		Madhira	I III	2.40 1.92 1.38	2 II	12.00		8.57	
		@Palwancha	I	1.4				9.11	,

APPENDIX 19.—(Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Yellandu	I	1.71 1.28		12.00 10.28	I 	10.28	
5.	Mahaboob- nagar	Mahaboob- @ nagar.	I	2.04	Ι	18.21	I	10.92	
	Magai	wagar.	III	1.69 1.30		13.65 10.92	••	••	
		Achampet (Amrabad.)	I	1.50 1.06		13.71 10.28			
		Atmakur	III	1.81 1.50 1.17		17.14 12.85	II	17.14 12.85 10.28	
		Alampur	I	2.57	I	10.28	I	10.28	
		Gadwal	. I	1.71 1.28) I	8.57	I	8.57	
•		@ Kalvakurthi	I III III	2.27 1.69 1.30	II	18.21 13.65 10.92		10.64 9.11	
		@ Kodangal	. I	2.16 1.69		13.65 10.92	I	10.92	
		Kollapur	II III	2.14 1.60 1.38	II	17.14 12.85 10.28		17.14 12.85 10.28	
		@ Makhthal	I II III	1.92 1.55 1.30	II	16.39 13.65 10.92		10.92 I 9.11	
		@ Nagarkurnool	I III	2.41 1.80 1.55	II	18.21 13.65 10.92	Ι	10.92	
		Shadnagar	I III	1.60 1.28 1.06	II	15.43 12.85 10.28	II	15.43 12.85 10.28	
		Wanparthi	I II III	1.92 1.50 1.28		12.85 12.00	I	10.28	
6.	Medak	Medak	I	2.78		17.14 14.57		17.14 14.57	
		Andole	I II III	2.77 2.16 1.55	I	20.03 16.39	Ι	20.03 16.39	

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Gajwel		77 to .72		0. <i>5</i> 7 3.72	to	*Tem	porary suspen- sion of As. 3 per rupee for Tabi assess-
		Narsapur	2.7	77 to 00	23.14	to .00	*		ment is allowed in Paigah villages since 1951.
		Narayankhe Spl. group I " III ", III ",	d	3.86 3.20 2.77 1.72	I 13	3.71	I	8.57	
		@Sangareddy (Kalabgur)	II	2.89 2.16 1.69	I 17	7.30		17.30 15.48	Spl. group one village 3.86, one village 3.37.
		Siddipet	II	2.78 1.92	I 13 II 13	7.14 3.71		17.14 13.71	village 5.57,
		@ Zahirabad	3	86 to		.71 t .41		.87 to . 5 7	Spl. assess- ment levied only to the extent of Nyalakal
7.	Nalgonda	Nalgonda	II III	2.88 2.35 1.81	I 13 II 14 III 13 IV 1	2.00	I	14.57	Rev. circle;
		Bhongir	I	2.67 2.14	I 1:	5.43	I	15.43	
		@ Devarkonda	I	1.69 1.34	II 10	3.65 0.92 9.11	I	9.11	
		Huzurnagar	I	2.35 1.92	I 13 II 13	3.71 1.14		13.71 11.14	
		Miryalguda	I	1.81 1.50	I 12 II 11			12.85 11.14	
		Ramannapet	I	2.67 2.14	I 15	5.43	I	15.43	
		Suryapet	I	1.81	I 11	1.14	I	11.14	والمعادلة المواقعة المتاوات والمتاوات والمتاوا

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APPENDIX 19.—Contd.

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
8.	Nizamabad	<u>@</u>	Nizamabad	I	2.41 2.04	I 18	3.21	I	18.21	
		(P	Armour	I	2.41 1.92	I 18 II 13 III 13		II	18.21 15.48 12.75	
		@	Banswada	I III	2.41 1.80 1.19	I 18 II 15	3.21 5.48		18.21 15.48	
		@	Bodhan	III	2.41 1.80 1.19	I 18 II 15			18.21 15.48	
		@	Kamareddy	··· I	3.00 2.41	_I 18	3.21	I	18.21	
			Yellareddy		1.71	I 11 II 14	7.14 4.57		17.14 14.57	
9.	Warangal	@	Warangal	I II III	2.64 2.27 1.92	I 14 II 14 III 13		I	9.11	
			Jangaon (Cherial).	. III	2.35 2.14 1.71	LH 1:		I	8.57	
		@	Mahabubabad	·· II	2.16 1.80	II 1 III 1		I	9.11	
		@	Mulug	·· III	1.44 1.19 0.96		0.92 9.11			
		(4)	Pakhal (Narsampet)	I	1.44 1.19		0.92 9.11	I	9.11	
		@) Parkal	I II III	2.64 1.92 1.30	II 1	4.57 2.75 0.92	I	9.11	

[@]The Maximum rates of the Taluqs are shown including the Special Assessment of Re. 0-1-0 per rupee on wet and Re. 0-2-0 per rupee on dry assessments, under the Hyderabad Land (Special Assessment) Act of 1952.

SOURCE.—Statement furnished by the Director of Settlements and the Agro Economic Reports of districts.

APPENDIX 20.

Statement showing the average prices of principal foodgrains from 1801-02 to 1956-57 for Andhra region. (per garce of 3,200 Madras Measures by volume)

Year		Paddy average of 1 & II sort	Ragi	Cholar	n Year		Paddy average of I & II sort	Ragi	Cholam
(1)		(2)	(3)	(4)	(1)		(2)	(3)	(4)
-		Rs.	Rs	Rs.			Rs.	Rs.	Rs.
1801-2	••	102.5	117	124	1820-21		85.5	105	125
1802-3		101.5	105	123	1821-22		100.5	118	132
1803-4		116.5	126	138	1822-23		98.5	116	136
1804-5	• •	128.0	145	157	1823-24		125.0	157	178
1805-6		111.5	128	140	1824-25		1 5 6.0	190	219
1806-7	• •	151.0	151	210	1825-26		118.0	138	164
1807-8		132.5	148	183	1826-27		89.5	99	105
1808-9		93.0	101	104	1827-28		81.0	89	91
1809-10	••	80.5	90	96	1828-29		84.0	92	95
1810-11	• •	85.5	90	100	1829-30		91.0	102	114
1811-12		102.5	112	119	1830-31		83.0	87	90
1812-13		124.0	141	159	1831-32		76.5	79	85
1813-14	• •	117.0	136	156	1832-33		115.5	138	149
1814-15	• •	99.5	114	135	1833-34		151.0	185	200
1815-16		81.0	83	104	1834-35	••	103.5	122	137
1816-17	• •	85.5	80	100	1835-36	••	83.0	82	91
1817-18	••	88.5	94	116	1836-37		104.0	106	113
1818-19	• •	86.5	103	119	1837-38		105.5	111	124
1819-20		86.5	108	120	1838-39	••	111.5	120	132

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APPENDIX 20—(Contd.)

(1)		(2)	(3)	(4)	(1)		(2)	(3)	(4)
1839-40		Rs. 93.5	Rs. 102	Rs. 112	1864-65		Rs. 196.0	Rs. 210	Rs. 227
1840-41		83.5	87	91	1865-66		210.0	231	260
1841-42		70.5	70	76	1866-67		255.0	313	334
1842-43		66.0	64	68	1867-68		187.5	212	214
1843-44		59.0	60	66	1868-69		179.5	196	206
1844-45		71.0	67	79	18 69-7 0		177.5	182	194
1845-46		104.0	115	125	18 70- 71		147.5	155	173
1846-47		105.0	114	129 _a	1871-72		132.0	131	151
1847-48		9 0	99	114	1872-73		140.0	145	172
1848-49		78.0	80	90	1873-74		138.0	163	187
1849-50		75.0	75	86	1874-75		13790	156	179
1850-51		71.5	74	88_	18 7 5-76		131.0	156	172
1851-52		68.5	73	88	1876-77		277.0	337	316
1852-53		66.5	72	84	1877-78	• •	290.0	409	443
1853-54		99.5	120	136	1878-79		226.0	289	318
1854-55		115.5	135	162	1879-80		167.0	203	213
1855-56		124.0	143	154	1880-81		146.0	150	153
1856-57		105.0	111	123	1881-82		140.0	141	139
1857-58		120.0	136	147	1882-83	٠.	140.0	139	137
1858-59	• •	151.0	162	180	1883-84		142.0	139	145
1859-60	• •	135.0	151	156	1884-85		150.0	168	185
18 60- 61	• •	143.0	160	164	1885-86		157.0	167	187
1861-62	••	157 0	172	186	1886-87		145.0	153	165
1862-63		164.0	175	201	1887-88		140.0	147	164
1863-64		165.0	185	214	1888-89		150.0	161	175

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APPENDIX 20—(Contd.)

								•	
(1)		(2)	(3)	(4)	(1)		(2)	(3)	(4)
1000.00		Rs.	Rs.	Rs.	101117		Rs.	Rs.	Rs
1889-90	• •	164.0	161	180	1914-15	• •	284.0	304	326
1890-91	••	180.0	178	203	1915-16	• •	279.0	291	314
1891-92	••	207.0	253	279	1916-17	• •	287.0	305	346
1892-93		202.0	231	261	1917-18		294.0	321	396
1893-94	••	182.0	205	236	1918-19		414.0	514	605
1894-95		175.0	177	206	1919-20		530.0	673	758
1895-96		169.0	157	188	1920-21		458.0	555	614
1896-97		195.0	222	265	1921-22	٠.	423.0	495	562
1897-98		241.0	276	325	1922-23		399.0	460	483
1898-99		190.0	217	231	1923-24		401.0	458	501
1899-1900		203.0	251	278	1924-25		435.0	500	553
1900-01		236.0	292	322	1925-26		406.0	457	492
1901-02		213.0	246	268	1926-27		409.0	469	514
1902-03		183.0	181	196	1927-28		408.0	474	523
1903-04		169.0	155	168	1928-29		381.0	446	477
1904-05		191.0	209	232	1929-30		343.0	385	422
1905-06		236.0	277	298	1930-31		267.0	288	306
1906-07		255.0	300	315	1931-32		227.0	255	276
1907-08		275.0	318	338	1932-33		210.0	244	263
1908-09		203.0	341	369	1933-34		183.0	220	227
1909-10		262.0	305	334	1934-35		216.0	268	290
1910-11		239.0	279	318	1935-36		227.0	286	314
1911-12		268.0	299	• 353	1936-37		195.0	. ••	
1912-13		310.0	332	396	1937-38		195.0	••	
1913-14	.:	300.0	319	352	1938-39		196.0	• •	
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APPENDIX 20—(Contd.)

(1)		(2)	(3)	(4)	(1)	(2)	(3)	(4)
		Rs.	Rs.	Rs.		 Rs.	Rs.	Rs.
1939-40		223.0	260	289	1948-49	 902.0	1620	1158
1940-41		257.0	298	319	1949-50	 903.0	1253	1238
1941-42		288.0	330	347	1950-51	 846.0	1231	1253
1942-43		413.0	501	531	1951-52	 877.0	1128	1370
1943-44		544.0	906	933	1952-53	 939.0	No stock	1628
1944-45		560.0	825	853	1953-54	 1061.0	1386	1738
1945-46	•	572.0	916	749	1954-55	 997.0	1094	1149
1946-47		588.0	907	899	1955-56	 945.0	863	946
1947-48		671.0	932	1082	1956-57	 1252.0	1229	1497

Conversion factors

				The second second	THE PERSON NAMED IN				
Paddy	aver	age I a	ind II sorts.		89.53 Impe 3,200 N		aunds	per garce o	f
Ragi.				aznia	108.97		,,		
Cholam				1 444	114.49	,,			
(Vide	G.O.	No.	2849 Rev., 2,892 ,, 839 ,, 2,082 ,, 3614 Mis.	dated "" "" ""	2- 8-1918 6- 8-1918 6- 5-1922 13-10-1932 6-12-1932				

APPENDIX 21.

Statement showing the average prices of principal foodgrains from 1890 to

Statement showing the average prices of principal foodgrains from 1890 to 1957 for the Telanagana region (per garce of 3,200 M.Ms. by Volume).

Year	ir	Price Price Rs. per garce.	Jowar Price in Rs. per garce.	Ragi Price in Rs. per garce.	Year		Paddy Price in Rs. per garce.	Jowar Price in Rs. per garce.	Ragi Price in Rs. per garce.
(1)		(2)	(3)	(4)	(1)		(2)	(3)	(4)
1890-91		195	234		1910-11		245	308	
1891-92		246	283	••	1911-12		313	363	
1892-93		191	296	ANG	1912-13		323	386	• •
1893-94		184	294		1913-14		301	342	
1894-95		179	226		1914-15		233	308	
1895-96		192	206		1915-16		243	223	
1896-97		290	451	ب ار باد رسالت باد	1916-17		299	339	
1897-98		261	388		1917-18		367	605	•
1898-99		227	271	• श्रुवा	1918-19		527	736	
1899-1900	. :	276	496		1919-20		513	605	
1900-01		252	426	• •	1920-21		376	889	674
1901-02		227	303	• •	1921-22		297	615	47:
1902-03		201	231		1922-23		297	530	39
1903-04		168	202	••	1923-24	••	302	476	35
1904-05		212	259		1924-25		294	496	432
1905-06		252	325	••	1925-26		281	442	32
1906-07		256	291	••	1926-27		273	494	486
1907-08		292	377	• •	1927-28		277	505	413
1908-09		265	348	••	1928-29		259	462	33:
1909-10		252	333	• •	1929-30		262	451	36

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APPENDIX 21—(Contd.)

(1)		(2)	(3)	(4)	(1)		(2)	(3)	(4)
us No. aguais maire d'éireann-bh		Rs.	Rs.	Rs.			Rs.	Rs.	Rs.
1930-31		208	274	319	1944-45		661	775	752
1931-32		203	285	232	1945-46		715	776	• •
1932-33		179	263	156	1946-47		739	830	
1933-34		188	268	395	1947-48		1059	1049	
1934-35		208	334	274	1948-49		1421	1493	••
1935-36		206	303	370	1949-50	••	1333	1477	
1936-37		216	328	A. T.	1950-51		900	1437	
1937-38		228	313		1951-52		1105	1535	
1938-39		227	376		1952-53		1110	1511	• -
1939-40		269	397		1953-54		1047	1665	
1940-41		273	337	287	1954-55		918	1300	
1941-42	••	346	350	336	1955-56		1006	1452	
1942-43		• •	615.	754	1956-57		1115	2032	• •
1943-44	••	561	705	674	1957-58		1113	1606	••

Density of population SI. District and Tahsil Area in **Population** of each District No. sq. miles (persons) (persons per sa. mile) (4) (2) (3) (5) (1) 7,387 1,483,591 201 Anantapur District 926 164,703 1. Anantapur 2. Dharmavaram 736 114,812 3. 896 214,851 Gooty 4. Hindupur 430 153,332 219,112 5. Kadiri 1,157 6. Kalyandurg 821 118,394 7. Madakasira 417 120,209 8. Penukonda 682 123,349 9. Rayadurg 682 122,035 10. Tadapatri 641 132,794 2. Chittoor District 5,931 1,810,377 305 1. Chandragiri 548 165,198 Chittoor ... 2. 778 340,717 ग्राप्टिक जागानी 3. Kalahasti 615 136,910 836 4. Madanapalli 197,289 Palmaner 720 169,739 5. 6. Punganur.. 648 147,398 7. Puttur . . 564 230,088 Tiruttani ... 8. 379 232,941 9. Vayalpad 802 190,097 3. Cuddapah District 5,923 1,161,731 196 Badvel 757 1. 108,711 Cuddapah 510 2. 147,389 3. Jammalamadugu 613 122,277 303 4. Kamalapuram 75,588 5. Proddatur 430 145,154

569

1.038

1,103

606

110,794

185,942

190,172

75,704

6.

7.

8.

9.

Pulivendla

Rajampet

Rayachoti

Siddayattam

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APPENDIX 22.—(Contd.)

(1)	(2)			(3)	(4)	(5)
4. Ea	st Godavar [†] District		• •	5,768	2,414,808	419
1.	Amalapı ram			353	316,767	
2.	Bhadrachalam		••	911	77,620	
3.	Kakinad 1		••	384	355,502	
4.	Nugur		• •	593	35,366	
5.	Peddapucam		• •	602	287,764	
6.	Pithapur 1m		• •	138	147,070	
7.	Rajahmi ndry			378	321,984	
8.	Ramachandrapuram			289	346,056	
9.	Rampachodavaram			710	40,273	
10.	Razole			291	314,910	
11.	Tuni			183	116,971	
12.	Yellavaram		13.6	850	54,525	
5. G	untur District			5,795	2,549,996	440
1.	Bapatla			670	403,509	
2.	Guntur .		1. 4	541	442,073	
3.	Narsarac _' pet		101.1 164.3	716	266,400	
4.	Ongole			820	333,995	
5.	Palnad		· ite fi sair	1,041	192,776	
6.	Repalle		(1.2), A. X. V.	297	191,010	
7.	Sattenap alle		राजांक जा	718	246,029	
8.	Tenali			324	357,839	
9.	Vinukonda		••	644	116,365	
6. Kr	ishna District		• •	3,496	1,77 9, 484	509
1.	Bandar (Masulipatar	n)	• •	343	218,982	
2.	Divi			465.	218,089	
3.	Gannavaram			295	198,579	
4.	Gudivada		• •	230	198,940	
5.	Kaikalur		• •	286	119,596	
6.	Nandigama		-,	679	239,639	
7.	Nuzvid			335	107,227	
8.	Tiruvur		• •	430/	121,860	
9.	Vijayawada		• •	436	356,572	
7. Kı	ırnool District		••	9,275	1,618,621	174
1.	Adoni			766	225,220	
2.	Alur		• •	613	122,558	

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APPENDIX 22—(Contd.)

(1)	(2)			(3)	(4)	(5)
3.	Banganapalle	••	• •	256	43,447	
4.	Cumbum	••		1,048	163,845	
5.	Dhone	••		836	127,234	
6.	Koilkuntla	• •		573	93,132	
7.	Kurnool	• •		641	198,288	
8.	Markapur		••	1,366	138,120	
9.	Nandikotkur	• •		1,092	149,738	
10.	Nandyal		• •	664	125,393	
11.	Pattikonda	• •		747	126,922	
12.	Sirvel	••	••	613	104,724	
8. <i>N</i>	ellore District			7,942	1,795,632	226
1.	Atmakur		The di	639	131,845	
2.	Darsi	. 8		591	118,826	
3.	Gudur		4	463	112,337	
4.	Kandukur			801	201,316	
5.	Kanigiri		N (1.17)	1,000	163,958	
6.	Kavali		TAKAR	548	136,362	
7.	Kovur		STATE OF THE	385	188,835	
8.	Nellore		AND AND	504	261,258	
9.	Podili		(Ca) 4. 2	564	96,000	
	Rapur			594	88,512	
11.	Sulurpet		লবেশ্ব না	573	95,718	
12.	Udayagiri	••	••	871	118,685	
13.	Venkatagiri	••	••	427	81,980	
9 . Si	rikakulam District			3,902	2,123,136	544
1.	Bobbili			391	262,748	
2.	Cheepurapalli			462	292,605	
3.	Ichapuram			87	78,761	
4.	Narasannapeta			200	151,634	
5.	Palakonda			494	298,992	
6.	Parvathipuram			590	192,254	
7.	Pathapatnam			463	203,542	
8.	Salur	• •	• •	491	156,581	
	Sompeta	••	••	212	130,444	
ч	- ompour	• •	• •			
9. 10.	Srikakulam			227	189,389	

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Appendix 22—(Contd.)

(1)	(2)			(3)	(4)	(5)
10.	Visakhapatnum Distric	t:		5,201	2,072,698	399
1	l. Anakapaile		• •	304	229,835	
2	2. Bheemunipatnam			337	232,619	
3	3. Golugonda		• •	516	221,727	
4	l. Gudem		• •	1,869	109,521	
5	5. Sarvasidhi		• •	347	241,933	
6	5. Srungavarapukota		• •	657	225,757	
7	. Veeravalli			594	287,994	
8	3. Visakhapatnam	٠.	• •	196	231,907	
9). Vizianagaram	٠	••	359	291,405	
11.	West Godavari District		• •	2,988	1,697,727	568
1	. Bhimavaram		• •	292	236,092	
2	. Chintalapudi		• • •	418	100,187	
3	. Eluru			510	260,599	
4	. Kovvur			391	214,522	
5	. Narsapur			279	293,773	
6	. Polavarara			551	97,245	
7	. Tadepalligudem		F 4 1411	360	217,123	
8	. Tanuku	••	19414	214	278,186	
12.	Adilabad District.			6,242	831,600	133
1	. Adilabad			580.48	101,611	
2	. Asifabad		• • •	833.92	92,245	
3	. Boath		सद्धमान व	553.75	57,280	
4	. Chinnoor	•		688.64	86,117	
5	. Khanapur			312.96	43,366	
6	. Lakshettipet			734.08	98,812	
7.	. Mudhol		••	413.30	92,645	
8	. Nirmal			566.40	121,029	
9.	. Sirpur .		• •	855.68	104,091	
10.	. Utnoor .		• •	726.40	34,404	
3. 1	Hyderabad District		• •	2,904	1,818,034	626
1.	. Hyderabad East		• •	268.83	83,775	
2.	. Hyderabad West			277.12	1,166,860	
3.	. Ibrahimpatnam	• •	• •	524.80	104,075	
4.	. Medchal .			307.20	78,851	
5.	. Pargi		• •	389.76	98,458	
6.		• •	• •	342.40	77,775	
7.		••	• •	371.20	85,414	
8.	. Vikarabad	• •	• •	505.60	122,826	

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Appendix 22..—(Contd.)

(1)	(2)			(3)	(4)	(5)
14.	Karimnagar District		• •	4,504	1,428,168	317
	1. Huzurabad			560.00	242,001	
	2. Jagtiyal			677. 7 6	203,865	
	3. Karimnagar			720.00	302,172	
	4. Manthani			834.55	86,846	
	5. Metpalli			368.00	120,635	
	6. Sirsilla	••	• •	721.92	228,847	
	7. Sultanabad	••	••	706.56	243,802	
15.	Khammam District.		••	4,232	700,006	165
	1. Burgampahad	• •	• •	568.96	43,590	
	2. Khammam		# 1E	591.36	235,078	
	3. Madhira		400	771.84	170,661	
	4. Palvancha			1,295.36	131,310	
	5. Yellandu	••		754.93	119,367	
16.	Mahbubnagar District			6,833	1,437,879	210
	 Achampet 	• •	1 1/1 1/1	1,126.40	71,664	
	2. Alampur		A STATE OF	435.20	81,330	
	3. Atmakur	• •	45万年10分月	446.72	98,330	
	4. Gadwal		The State of the S	517.75	117,017	
	5. Kalvakurti	• •	बक्रांध्रेश ज	748.64	152,159	
	6. Kodangal	• •		460.80	151,494	
	7. Kollapur	• •		661.12	101,759	
	8. Mahbubnagar	• •	• •	460.16	152,751	
	9. Makhtal		• •	532.48	134,769	
	Nagarkurnool	• •	• •	561.28	137,377	
	11. Shadnagar	• •	• •	458.88	117,733	
	12. Wanparti	••	• •	535.68	121,496	
17.	Medak District	••	••	3,804	1,124,240	296
	1. Andol	• •	• •	470.40	153,037	
	2. Gajwel	• •	• •	385.92	139,253	
	3. Medak	• •	• •	520.32	152,501	
	4. Narayankhed	• •	• •	384.39	86,204	
	5. Narsapur	• •	••	425.60	103,961	
	6. Sangareddy	• •	• •	474.24	146,242	
	7. Siddipet	• •	• •	618.88	209,473	
	8. Zahirabad		• •	519.97	133,569	

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APPENDIX 22.—(Contd.)

(1)	(2)			(3)	(4)	(5)
18.	Nalgonda District		• •	5,385	1,252,810	233
	1. Bhongir			614.40	186,464	
	2. Devarkonda			1,041.28	163,442	
	3. Huzurnagar			532.48	125,814	
	4. Miryalguda	• •	••	750.72	128,224	
	5. Nalgonda		••	953.60	256,153	
	6. Ramanna pet			684.16	170,909	
	7. Suryapet	• •	• •	803.20	221,804	
19.	Nizamabad District	• •	••	3,203	833,611	260
	1. Armoor			748.16	182,907	
	2. Banswada	••	- 10-15	560.29	147,254	
	3. Bodhan	9		290.36	126,096	
	4. Kamarediy			483.20	136,298	
	5. Nizamabad		1.5	505.60	169,717	
	6. Yellareddy	٠,٠	-	438.40	71,339	
20.	Warangal District		10.5	5,326	1,325,984	249
	1. Jangaon			872.32	291,165	
	2. Mahbubabad			799.36	235,968	
	3. Mulug		(100) O. A.	1,346.56	66,292	
	4. Pakhal	• •	सन्द्रगांच ।	744.96	106,753	
	5. Parkal			556.16	153,499	
	6. Warangal	• •		785.91	472,307	

Source: Tables 2 & 3 of the Statistical Abstract 1956 published by the Director of the Bureau of Economics and Statistics, Andhra Pradesh, Hyderabad.

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APPENDIX 23.

Yield per Acre (in lb.) of Principal crops by Districts, 1955-56

	District	-	Rice	Wheat	Jowar	Bajra or sajja	Maize (Kharif)
	(1)		(2)	(3)	(4)	(5)	(6)
	Andhra Region.						
1.	Anantapur	••	1,045	280	278.	356	1,000
2.	Chittoor	• •	1,199	280	493	502	8 50
3.	Cuddapah	••	1,046	298	351	376	850
4.	East Godavari	• •	1,313	308	442	541	280
5.	Guntur		1,338	315	734	340	1,001
6.	Krishna		1,203	336	284	485	1,001
7.	Kurnool		1,122	315	461	779	1,000
8.	Nellore		1,102	315	734	809	920
9.	Srikakulam		940	350	493	485	840
10.	Visakhapatnam		1,015		339	483	910
11.	West Godavari		1,203	280	388	485	900
	Average		1,171	305	500	498	939
Tela	ingana Region.		e of	বৰ্ণৰ নৰ চ			
12.	Adilabad		627	316	319		607
13.	Hyderabad		680	144	135	195	355
14.	Karimnagar		533	187	271		. 748
15.	Khammam		665		520	195	355
16.	Mahbubnagar		586	138	333	312	
17.	Medak		670	192	205	195	360
18.	Nalgonda		581	225	303	301	
19.	Nizamabad		894	249	182	••	556
20.	Warangal		507	108	334	257	570
	Average		631	225	318	291	558
And	dhra Pradesh Avera	.GE .	1,015	246	401	429	536

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APPENDIX 23.—(Contd.)

Ragi	Bengal Gram	Tuar or Redgram	Mung or green- gram	Kulthi or Horse- gram	Ground- nut	Castor
(7)	(8)	(9)	(10)	(11)	(12)	(13)
864	400	400	92	180	952	128
512	400	375	188	150	896	193
1,165	375	400	206	150	840	120
731	435	465	130	160	1,008	238
731	475	450	166	170	986	238
731	485	480	294	190	1,064	233
731	460	460	250 -	196	896	141
579	475	450	285	168	952	225
692	450	475	211	194	1,064	210
835	460	480	104	190	1,064	225
731	450	500	130	162	1,008	238
719	450	435	230	174	941	180
		सन्त	पव नधन		**************************************	
••	239	248	108	112	660	128
182	265	203	105	116	440	105
187	73	177	48	43	630	159
253	207	234	248	90	470	174
264	243	216	103	140	440	168
193	311	112	125	179	370	140
292	207	445	143	172	500	168
209	194	108	99	108	540	125
237	147	126	120	132	480	150
237	256	227	131	134	480	160
626	289	243	167	159	780	163

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APPENDIX 23.—(contd.)

Yield per Acre (in lb.) of Principal crops by Districts, 1955-56.

	District		Linseed	Seasamum or gingelly	Sugarcane (Gur)	Tobacco	Cotton (Lint).
			(14)	(15)	(16)	(17)	(18)
	Andhra Region						
1.	Anantapur	• •	••	179	3,489	837	54
2.	Chittoor	••	293	224	6,933	812	64
3.	Cuddapah	• •	352	179	6,858	1,117	60
4.	East Godavari		• •	269	8,308	708	68
5.	Guntur		298	274	6,865	7 71	71
6.	Krishna		• •	319	7,339	695	71
7.	Kurnool		251	202	6,878	553	51
8.	Nellore		307	263	7,000	800	64
9.	Srikakulam			319	6,545	1,009	47
10.	Visakhapatnam			319	6,474	900	47
11.	West Godavari		.0	319	8,384	746	• •
	Average		291	280	7,012	756	54
	Telangana Regio	n.		वयाधेव नपने			
12.	Adilabad	• •	134	88	3,000	492	37
13.	Hyderabad	٠.	108	80	3,240	346	25
14.	Karimnagar			92	2,745	652	34
15.	Khammam			170	• •	827	40
16.	Mahbubnagar		116	96	3,105	485	26
17.	Medak		103	101	3,900	350	72
18.	Nalgonda		112	122	3,375	427	35
19.	Nizamabad		154	81	5,940	384	29
20.	Warangal		• •	101	855	633	39
	Average		125	98	5,571	624	37
Ave	_	adesl	h 128	175	6,625	744	50
	rage for Andhra Pra						

Source.—Statistical Abstract Andhra Pradesh, 1956, published by Director, Bureau of Economics and Statistics, Andhra Pradesh, Hyderabad.



सन्त्रपंत्र नवने

APPENDIX
FARM AVERAGE PRICES OF PRINCIPAL
(Prices are in Rupees per

District		Rice	Jowar	Bajra	Ragi	Korra
(1)		(2)	(3)	.(4)	(5)	(6)
Andhra Region.						
1. Anantapur	••	17.06	7.31	7.38	7.50	6.44
2. Chittoor	:.	18.56	10.00	9.19	10.75	••
3. Cuddapah		13.44	7.50	8.13	7.88	6.44
4. East Godavari		18.75	12.00		12.00	• •
5. Guntur		18.44	11.50	12.63	10.88	9.00
6. Krishna		14.81	7.00			
7. Kurnool		16:50	6.19	8.06	7.63	6.56
8. Nellore		18.02	8.86	9.95	7.61	
9. Srikakulam		16.69	11.13	11.13	11.75	11.81
10. Visakhapatnam		16.63	8.00	8.00	8.00	
11. West Godavari		17.63	14.50	• •	• •	
Average		16.96	9.45	9.31	9.33	8.05
Telangana Region						
12. Adilabad	••	5.87	6.00	••	• •	
13. Hyderabad		11.69	8.87	6.56	5.50	• •
14. Karimnagar		7.44	6.94		••	
15. Khammam		8.31	7.41	•. •	• •	• •
16. Mahbubnagar	••	9.62	9.97	7.31	5.25	
17. Medak		10.06	9.91	6.94		
18. Nalgonda		8.42	7.91	6.50		
19. Nizamabad	• •	8.06	12.16	• •	••	
20. Warangal	• •	9.12	8.37	6.50		
Average	• •	8.74	8.62	6.76	5.37	
Average for Andhra 1	 Pradesh	••	9.04	8.04	7.35	8.05

Source.—Table No. 39 of the Statistical Abstract 1956 published by the Director.

24. CROPS: BY DISTRICT 1955-56. Standard Maund of 82-2/7 Lbs.)

Varagu	Samai	Maize	Bengal- gram	Red- gram (tuar)	Black- gram (Mash)	Green- gram (Mung
(7)	(3)	(9)	(10)	(11)	(12)	(13)
••	• •	• •	11.81	9.75	11.81	10.13
• •	• •	• •	• •	••	••	
• •	••	••	11.75	10.56	11.75	10.44
••		••	17.00		17.00	
9.63	••	16.00	15.38	14.25	15.38	14.31
• •	••				••	••
••	••	(••	• •	• •
••	••				. •	••
••	7.00	10.19	10.00	14.38	19.00	10.06
• •	••	(&	다. 0:1년 11년 0:1년)	• •	
• •	• •	7	त्यापेड नधने	17.00		14.75
9.6 3	7.00	13.10	14.99	13.19	14.99	13.04
••	• •	5.56	••	12.69		
• •	• •	• •	••		••	
• •	• •	6.69	• •	••	• •	• •
	• ·	0.09		17.69	• •	
• •	• •		12.00	13.75	••	
	• •	7.31	10.69	• •		• •
••	• •	• •	••	13.19	••	• •
••	• •	• •	12.69	• •	• •	• •
• •	• •	8.38	••	••	• •	
• •	• •	6.98	11.29	14.33	• •	••
9.63	7.00	10.04	13.14	13.76	14.99	13.04

of Bureau of Economics and Statistics, Andhra Pradesh, Hyderabad.

	District		Horse- gram	Cane- jaggery	Ground- nut	Castor	Gin- gelly
	•	· · · · · · · · · · · · · · · · · · ·	(14)	(15)	(16)	(17)	(18)
And	hra Region.						
1.	Anantapur		8.31	9.06	15.63	12.69	• •
2.	Chittoor			11.13	15.38	••	
3.	Cuddapah		7.69	14.69	10.56	10.88	• •
4.	East Godavari			14.00		• •	• •
5.	Guntur		10.75		19.50	20.69	20.69
6.	Krishna			ATTACK	••	• •	• •
7.	Kurnool		-518		.	• •	• •
8.	Nellore					• •	
9.	Srikakulam		10.06	8.38	9.63	• •	
10.	Visakhapatnam			12.50	20.00	• •	
11.	West Godavari		11.75		15.63	• •	••
	Average		9.71	11.63	15.19	14.75	20.69
Tela	ngana Region		200	स्रमेव मधने			
12.	Adilabad			• •	11.00	15.56	20.00
13.	Hyderabad			• •	• •	16.44	• •
14.	Karimnagar				11.81		21.69
15.	Khammam			• •	9.44		18.06
16.	Mahbubnagar		• •		••	• •	• •
17.	Medak		• •		7.06	15.00	17.56
18.	Nalgonda			••	12.75	17.81	••
19.	Nizamabad		• •	10.62	11.81	• •	
20.	Warangal			• •	13.06	••	• •
	Average		••	10.62	10.99	16.20	19.33
Ave	rage for Andhra Pra	- idesl	9.71	11.13	13.09	15.48	20.01

24-.-(Contd.)

Chi- lies	Onion	Cotton	Tobacco 1	Linseed	
19)	(20)	(21)	(22))	(23)
9.00	••	• •	32.94	••	
•	••	• •	••	• •	
5.56	4.50	22.06	58.63		
•	• •	• •	70.00		
7.88		17.50	49.00	• •	
•		••	102.00		
•	• •	. 6		13.	
•	••	1			
0.50	6.94		81.25	7	
0.00	••	• •			
3.63	2.88	1	103.31		
4.43	4.77	19.78	71.16	7	
		2	बद्यपंत्र मधने		
	• •	• •			
•	• •	• •		• •	
		15.69			
	••	16.81	47.37		
•	• •	• •		20.06	
		• •	80.00		
	• •				
	• •	• • • •			
	••	• •			
•		16.25	61.18	20.06	
4.43	4.77	18.02	66.17	20.06	-

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FARM AVERAGE PRICES OF PRINCIPAL.

(Prices are in Rs. per

	District		Rice	Jowar	Bajra	Ragi	Korra
	(1)		(2)	(3)	(4)	(5)	(6)
Ana	Ihra Region (Rice)						
1.	Anantapur	• •	19.44	12.48	10.86	10.09	9.72
2.	Chittoor		21.85	11. 14	10.11	10.61	• •
3.	Cuddapah		13.13	12.68	10.19	12.50	9.92
4.	East Godavari	• •		10.00	• •	10.75	• •
5.	Guntur	••	20.36	14.25	12.44	9.47	10.00
6.	Krishna	••			••	••	• •
7.	Kurnool	• •	16.50	11.50	11.00	11.00	7.67
8.	Nellore	• •	19.10	14.04	12.70	11.88	9.00
9.	Sr ikakulam	• •	17.89	11.00	11.25	11.25	• •
10.	Visakhapatnam	• •	20.00	14.00	13.00	11.00	6.00
11.	West Godavari	• •			• •	••	• •
	Average	• •	18.66	12.34	11.44	10.95	8.72
Tela	ngana Region (Pad	dy)	114	125			
12.	Adilabad	• •	10.00	10.74	• •	••	••
13.	Hyderabad		10.84	13.48	12.25	11.00	
14.	Karimnagar	••	11.22	12.54	••	••	••
15.	Khammam	••	11.75	13.94	• •		
16.	Mahbubnagar		11.53	15.12	13.00	12.39	
17.	Medak	••	13.97	14.60	••	••	••
18.	Nalgonda	• •	11.35	11.70	11.06	••	
19.	Nizamabad		10.52	••		8.97	••
2 0	Warangal		11.00	13.50	13.31	••	• •
	Average	••	11.35	13.20	12.40	10.79	• •
Ave:	rage for Andhra Pr	adesh	••	12.77	11.92	10.87	8.72

CROPS BY DISTRICTS 1956-57. Standard Mauna of 82-2/7 lb.)

Varagu	Samai	Maize	Bengal- gram	Red- gram (tuar)	Black- gram (Mash)	Green- gram (Mung)
(7)	(8)	(9)	(10)	(11)	(12)	(13)
• •		••	12.05	9.67	••	10.92
	. •	••		• •		• •
		• •	15.00	12.59	••	11.40
	. •	• •	15.00	••	••	••
11.00		10.00	13.33	11.10	15.17	12.44
٠.	• •	6		2.		• •
\5.11		(E)	10.04	11.89	• •	10.70
14.45		6		12.00	• •	16.00
	••	11.00		5.00	16.00	15.00
••		14.00			19.00	11.00
	• •	8				
10.19		11.67	13.08	10.38	16.72	12.49
			बद्धपेद नद			
		• •	••	13.37	••	••
••	• •	••	8.47		••	••
	. •	• •		14.00		••
• •		• •		• •		••
• •	••	••	15.90	19.81	••	• •
• •		• •	14.92	20.00		••
••	• •	••	14.87	••	• •	••
••	•	••	18.00	••	••	• •
• •		• •	• •	• •	• •	• •
••			14.43	16.79	••	••
10.19		11.67	13.75	13.58	16.72	12.49

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FARM AVERAGE PRICES OF PRINCIPAL
(Prices are in Rs. per Standard

	District		Horse- gram	Cane jaggery	Ground- nut	Castor	Gingelly
	(1)		(14)	(15)	(16)	(17)	(18)
Ana	lhra Region.						
1.	Anantapur		9.67	16.59	17.72	16.83	
2.	Chittoor		• •	11.33	15.42	• •	
3.	Cuddapah		9.18	16.75	13.67	19.25	21.75
4.	East Godavari			15.17	8.00	••	16.50
5.	Guntur	• •	8.88	••	30.25	••	••
6. 7.	Krishna Kurnool	••	8.23			 10.72	••
8.	Nellore		10.47		16.00	32.00	• •
9.	Srikakulam		10.60	9.80	8.50	••	32.50
10.	Visakhapatnam	••	8.00	11.00	16.00	• •	28.50
11.	West Godavari						••
	Average		9.29	13.44	15.70	19.70	24.81
Teld	angana Region		ষ্ঠ	पंच नवने			
12.	Adilabad		• •	• •	17.37	22.00	34.50
13.	Hyderabad	••	• •		14.87	22.42	30.00
14.	Karimnagar				14.75	23.33	27.80
15.	Khammam				14.87	23.00	32.94
16.	Mahbubnagar	• •	···		11.75	• •	36.61
17.	Medak		• •		15.06	36.00	••
18.	Nalgonda	.: -			18.94	21.50	19.00
19.	Nizamabad	••			15.00	• •	19.17
20.	Warangal		• •	••	••	• •	• •
	Average	•	••	• •	15.33	24.70	28.50
Ave	rage for Andhra Pi	radesh.	. 9.29	13.44	15.01	22.20	26.65

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CROPS BY DISTRICTS 1956-57 Maund of 82-2/7 lb.)

Chillies	Onion	Cotton	Tobacco	Linseed	·
(19)	(20)	(21)	(22	(23)	
37.50	5.81	••	46.16		
• •	• •	29.25	••	••	
62.22	3.72	••		••	
••	• •		• •	••	
52.60	10.00	17.33	25.00	••	
• •	• •	• •			
40.14	3,35	&			
56.00	• •	4			
45.72	7.34	•	84.88	<i>W</i>	
60.00	5.50	• •		1	
	3.30	••	SEC. III	1	
• •	• •	• •			
53.45	7.12	23.29	52.01		
			सन्प्रयोग न	17-1	
	• •	24.16		13.81	
		20.00			
		• •			
• •			39.12	••	
			••		
••	• •	٠.			
• •	• •	••	34.35	••	
• •	• •	••	• •	••	
• •		• •	• •	••	
• •	• •	• •	• •	••	
		22.08	36.73	16.31	
53.45	7.12	22.68	44.37	16.31	

Source:--Statistical Abstract 1957, table 39 under issue.

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APPENDIX 25.

Livestock Population 1951 and 1956.

S.N	o. Parti	culars			1951	1956
1.	Cattle Total Male Female Young stoo	 ck	·· ·· ··	••	1,22,49,269 50,07,020 39,23,730 33,18,519	1,12,76,547 48,42,417 37,62,170 26,71,960
2.	Buffaloes Total Male Female Young s	 tock	 	•••	65,83,378 13,62,219 29,41,650 22,79,509	59,67,633 11,01,718 28,75,815 19,90,100
3.	Sheep	••	• •		1,01,92,712	78,46,250
4.	Goats	• •		٠	43,30,673	36,93,412
5.	Horses and Ponies	••			62,893	31,514
6.	Donkeys	••			1,52,652	76,429
7.	Mules		15,111		527	382
8.	Camels				329	107
9.	Pigs	• •)	7,14,500	6,20,845
		Total	Livestock		3,42,86,933	2,95,13,119
10.	Fowls	• •			1,02,98,318	1,46,06,885
11.	Ducks	• •	••		3,10,837	2,98,735
12.	Other including Turk	eys	••		Not enumerated	31,672
		To	al Poultry		1,06,09,155	1,47,37,292

Source:—Statistical Abstract Andhra Pradesh 1956, published by the Director, Bureau of Economics and Statistics, Andhra Pradesh, Hyderabad.

APPENDIX 26.

GLOSSARY

Α

Abi.—Paddy Crop sown at the commencement of rainy season, irrigated by tanks, wells and other irrigation sources.

Achu Kattu.—Land divided into beds to catch and retain the surface-flowing rain water for raising short-term paddy crop.

Adsali.—Sugarcane crop of 18 months' duration.

Adhar.—Base line fixed during survey in Telangana from one end of the village to the other, on which off-sets of bends of survey fields are measured.

Agency.—Scheduled and specially administered area usually inhabited by Hill Tribes and $Adiv\epsilon$ sis.

Ain.—An act or Statute.

Ain-i-Akbari.—A book containing the laws, rules and orders relating to land assessment during the reign of the Moghul Emperor, Akbar, the great.

Al-Tampha Jagir.—A kind of Jagir granted perpetually to be continued to generations.

Annawari Table.—Table showing the classification of soils and irrigation sources in terms of annas.

Asmani-tari.—Rainfed paddy crop sown at low level lands and not irrigated by any source.

Asami-shikmi.—One who cultivates the land of another person and pays him a fixed rent; a sub-tenant.

E

Baghat.—Land suitable for growing garden crops with irrigation from wells or Government sources.

Bajra.--Sajja. '

Banjar.—Land lying fallow for 4 or 5 years: Waste land.

Bhagannas.—The value of the soil expressed in terms of annas in Telangana.

Bhurkie.—A structure constructed on the bank of a river or nala, from which water is lifted for irrigation.

Bigha.—30 guntas make one Bigha equivalent to 3630 sq. yards.

Bila.—Spring pond in Srikakulam district used as a source of irrigation.

Bilmaquta.—Consolidated revenue including in one aggregate, the Mal, or land-tax and Abwab or miscellaneous items of Revenue A fixed rent or revenue assessed at a rate below the usual standard; Land or village held on payment of a fixed rate of rent.

C

Chalka.—Loose soil consisting of a large proportion of sand in clay.

Chicher.—Land which was fallow for three or four years.

Chunkhad.—A mixture of minute fragments or nodules of lime-stone.

D

Dalwa.—Second crop paddy (word usually used in Circar districts).

Dastbund.—The amount paid to the Inamdar for the use of water from the source of irrigation maintained by him. This amount is given at 10% of the land revenue.

Dekudies.—Correspond to Bhurkies or Doruvus (word used in Bombay State).

Dupan.—Sloping land liable to erosion by running rain water.

Diglott.—A printed record in two languages of settlement particulars available with Karnam, in Taluk Office and Collector's Offices in the Andhra region.

Diwani.—The territory which was administered by Diwan, i.e., Government in Telangana region. It is also called Khalsa.

Dufassal or Dofasal.—Crop which remains on ground for more than six months and is irrigated. When applied it means a double crop land entitled to raise two heavily irrigated crops or a crop which remains on ground during both the seasons

Dosh.—Defect.

F

Edigari Paddy.—A kind of paddy grown as third crop.

F

Fasaljasti.—The charge for water for the irrigation of a second irrigated crop on a wet land entitled to raise only one heavily irrigated crop.

Firman.—The written order issued on behalf of the king.

G

Gairan.—The land reserved for pasture for the village cattle to graze.

Garce.—3,200 Madras measures make one garce.

Gochu.—Soil containing large fragments of rock or nodules of limestone.

Guda.—A Bamboo basket with ropes on either side used by two persons for baling water from a canal, pond or pool for irrigation.

Gulmoha Tree.—Ippa tree, the flowers of which are used for fermenting and distilling liquor.

Gunta.—121 sq. yards or 2.50 Cents. 40 guntas make one acre.

Hissedar.—Slare-holder.

I

Ijara.--Long lease of Banjar lands for cultivation and habilitation.

Inam.—Grant of land free of land revenue or at a favourable rate of land revenue,

Inami.—Pertaining to land granted free of land revenue.

J

Jagir.—The grant of village by the kings to their Lords and Mansabdars free of all assessments.

Jhara.—Wate: percolating from the weak subsoil springs.

K

Kachcha.—Temporary as opposed to pucca (permanent).

Kami-Eksala.—Remission or exemption from the payment of land revenue for loss or damage of crops for reasons beyond the control of the cultivator.

Karal—A peculiar mixture, more or less impervious to water-saline.

Kariveda.—Paddy crop irrigated, by intercepted rain-water.

Karnam.—Village Accountant in the Andhra region corresponding to Patwari in Telangana.

Kasam.—Spring pond from which water is taken for irrigation. This is called Bila in Srikakulam district and Sona in Guntur District.

Khalsa.—Government—(Territory directly administered by Government).

Kharif.—Early dry crop harvested in Autumn.

Kharij.—The land on which no assessment is fixed.

Khasra Pahari.—Village Account showing details of S. Nos., extent, assessment, occupant, crops raised whether rainfed or irrigated—corresponds to the Adangal in the Andhra region.

Khastas.—Compartments made in a survey number for the purposes of classifying the soil in a land.

Khata.--Kulam, or category.

Khatedar.-Landholder or occupant-Pattadar.

Khiraj.—Tribute or assessment to be paid to king.

Khud Kast .-- To cultivate on one's own account.

Kistband.—Instalments for land revenue collections.

Korambu.—Bund or obstruction put to divert the flow of water in a river or a stream into an open-mouth channel.

L

nil

M

Maddad Mash Jagir.—The grants made by old Rulers to their subjects.

Madras measure.—2.53 lb. of paddy make one Madras measure. It is roughtly $1\frac{1}{2}$ seers.

Manul.—It is cash grant, which is paid once in a year or priodically to the grantee.

Manawari.—Rainfed land on which paddy is grown by impounding rain water.

Maqta.—Land granted to a person on payment of a fixed amount which is not based on any percentage of the revenue due on the land.

Masab.—The soil with a black colour with some white patches.

Mashrooti Jagir—The grant made subject to rendering certain service.

Mhote.—A contrivance for lifting water for irrigating the land from wells with the aid of bullocks.

Milewar.—Settlement term to denote the concession given in assessment with reference to the distance of field from the village site.

Mirasi.—A kind of perpetual grant given to a person who has constructed the tank.

Morum.-Gravel.

Motasthal.—Land irrigated by well or nala through mhote or mota.

N

nil

0

nil

P

Padugai.—Land lying between the flood bank of a river and its water edge.

Pahani Patrika.—Village account similar to Khasra Pahani.

Paigah.—Territory given by the Government to feudals on condition of rendering service to the king.

Pakka Book.—Register perepared by the Survey Staff showing the sketch of the field with measurement and area worked out—otherwise called field measurement book in Andhra.

Palchalka.—The land in which the ratio of sand is more than that of clay. This land becomes uncultivable after two years, cultivation and again becomes fit for cultivation after keeping it fallow for two years.

Panchas.—Panchayat members.

Paniclass.—Classification of irrigation source in Telangana.

Panmalla.—The place where betel-vines are raised.

Panmaqta.—The nominal amount fixed on the grant of Maqta to preserve the proprietary rights of the Government over the land granted.

Parakam.—Flow source. (see patasthal).

Parre Kalva.—A kind of channel dug in the bed of non-perennial Rivers and small streams for carrying sub-soil water for irrigating fields.

Partai Book.—Register showing the details of classification of land.

Patasthal.—Land irrigated by gravitational flow.

Patel.—Village Headman corresponding to Village Munsiff, Naidu, Reddi in Andhra.

Pattadar.—The person who is directly responsible for the Government for the payment of land revenue and whose name is mentioned in Government records; either he is in possession of the land in person or through a shikmidar.

Patwari.—A Village Officer who keeps accounts of land revenue corresponding to Karnam in the Andhra region.

Phirwati.—Land which requires periodical fallow period.

Podu Cultivation.—Cultivation by tribals by setting fire to the forests on hill-slopes and using the ashes as manure for crops.

Potekharab.--Uncultivable area in a field on which no assessment is levied. This corresponds to unprofitable areas in the patta fields in Andhra.

Pote-Number.—Subdivision number.

Potpattedar.—The person who is the holder of pote-number of a patta. Pote Number is the portion of a survey number which is charged and assessed separately, i.e., subdivision.

Pucca.—Permanent. Built in masonry as opposed to Kachcha.

Pulaj.-Land commonly cultivated.

Punasa.—Early dry crop (Mungari). (See Kharif).

Q

Qaul.-Lease. Cowle in Andhra.

Qauli.--Leased out for a specified period.

R

Rabi.—A dry crop sown in October and November and harvested in summer in March and May.

Rais.—Local Chiefs.

Regad or Regar.—A kind of stiff black clay soil.

Reswat.—Want of cohesion amongst the constituent particles of the soil. (Loose soil).

S

Sarbasta.—Land revenue fixed for certain territories and collected by Talukdars through Patels and Patwaries. This system was prevalent in Marathwada. (Prior to ryotwari settlement).

Sarf-e-Khas.—Property of the H.E.H. the Nizam and the revenue from which went to his privy purpose. These tracts were abolished and taken over by the Government.

Sarva.—First crop paddy (word usually used in delta areas).

Sathikam.—Second paddy crop (used in Srikakulam district).

Shadoof.—Water proof device used in Egypt and India to lift water.

Sethwar.—Register prepared after survey containing the names of the holders of land, area and assessment, field-wise.

Shara Navisi.—Remarks written by the Inspecting Officers in village accounts.

Shikmidari.—The person who has a title in that land as a pattadar or a joint holder of the land with the pattadar since inception or has a shikmidari right according to any rule, in force, before the introduction of the Hyderabad Land Revenue Act, 1317 F.

Sivai Jamabandi.—The income derived from items other than the specified land revenue items; Annual Settlement of Miscellaneous items of Revenue.

Sona.—Spring pond from which water flows for irrigating lands. (Found in Guntur District).

T

Tabi.—The Paddy crop which is grown in summer season.

Taccavi.—The amount which is given to cultivators as a loan for their cultivation and which is repayable to the Government.

Tah Bandi.—The arrangement according to which lands are ear-marked for irrigation under Tabi crop according to the availability of water in the source.

Tahud.—Assessment fixed on a village or a group of villages leased out for a certain period in lieu of all Government dues.

Tankha Jagir.—The Jagir which was granted for paying salaries to the Army. Previously Jagirs were given to the lords who had Army under them for the payment of salary.

Taram.—Serial number assigned to the rate of assessment. (Dhara).

Tawan.—Penalty.

Tirwajasti.—Water-rate collectable on dry lands irrigated from a Government source of irrigation.

H

Umli.—A kind of Makta. In Karnatak, Zamindars were in possession of villages without sanads. The Inam Enquiry Commission accepted their possession on condition that one-third of land revenue will be credited to Government and 2/3 land revenue will be enjoyed by them. They were called Umlidars.

Uppalwatbonda.—Spring well from which water is available by over flow for irrigation as from a Patasthal source. Similar to Kasams, Bilas, and Sonas in Andhra.

Uppalwat.—Liability to an excess of moisture from surface springs—Damp.

Utarvat.—A sloping surface.

W

Walsar.—A mixture of Sand.

Y

Yatam.—A country contrivance by which water from a well or pit is lifted for irrigation of crops. It is also called picottah in Andhra.

7.

Zat-Jagir.—The Jagir which was granted for the private expenses of the grantee.

APPENDIX 27

LIST OF BOOKS REFERRED TO BY THE COMMITTEE

S. No. 1. District Gazetteers.

Krishna district	Vol. II	1934
Godavari	Vol. I, II & 1	II 1907 1906 & 193 5
Cuddapah	Vol. I & II	1930
Kurnool	Vol. II & III	1928 & 1932
Guntur	Vol. II & III	1929 & 1933
Chittoor	Vol. II & III	1928 & 1932
West Godavari	Vol. II	1934
Anantapur	Vol. II	
Vis akhapatnam	Vol. I & II	1935 & 1907
Nellore	Vol. II & III	1929 & 1932
Cuddapah	Vol. I & III	1933
Anantapur मधन	Vol. III	1933
Krishna	• •	1950
Bellary	Vol. II & III	1933
Madras East Coast Districts.		1906

Medak, Adilabad, Mahaboobnagar, Nizamabad, Karimnagar, Warangal, Nalgonda, Gulbarga, Raichur, Nanded, Bidar (Tables Vol. 1340 & 1345 F.).

- 2. Agricultural progress in Western India—1921 Edition.
- 3. Land Lordism in India.

by Dvijadas Datta, M.A.A.R.A.C. Late Professor of Agriculture C E. College, Sibpore. 4. The Agrarian system of Moslim India. (A historical essay with Appendices. 1929 edition.)

By W.H. More land C.S.I., C.I.E. Author of India at the death of Akbar from Akbar to Aurangzeb.

5. Note on Irrigation on the block system in the Deccan Canal & Tracts. Technical paper No. 16.

By C.C. Inglis, I.S.E. Executive Engineer, Special Division, Government of Bombay.

6. Land Revenue Administration Department of the Bombay Presidency. 1935 to 1936.

(including soil) Issued by by the Government of Bombay.

- Central Provinces Settlement Instructions (reprint of 1934).
- 8. Introduction to Land Revenue & Settlement system of C.P. (Second impression 1924).
- 9. The Bombay Survey & Settlement Manual (Vol. I-Part I) (Vol. II Part II Technical) (Part III-Appendices, second edition 1951.)

By R.G. Gorden, I.C.S.

10. Tribal Hyderabad. From reports.

.. By Christoph-Von-Furer Haimondrf., Ph.D.

- With a foreword by W.V. Guigson, C.S.I., I.C.S. Honourable Police member and Revenue Government of H.E.H. the Nizam Published by the Revenue Department, Government of H.E.H. the Nizam, Hyderabad 1945.
- 11. Monograph of Kurnool—Cuddapah Canal to the end of 1881.
- Tungabhadra reservior project Vol II. by Government of Madras.
- 13. Notes by the Settlement Commissioner of his annual tour of inspection in 1306 F. (1897 Print).
- 14. (a) Settlement report of Bellary & Anantapur Districts, black cotton soil taluks—Scheme report. G.O. No. 1332, Revenue, dated 21-7-1922.
 - (b) Settlement Report on the taluks of Jamikunta and Sultanabad of Karimnagar District. (1355—1906 A.D.)

.. By Gorarji Dorashaw.

(c) Settlement report of the Chiryal Taluq of Warangal district, Kamareddy and Yellareddy taluks, of Indur district, Kabulugu and Boahan of Nizamabad district. Madera of Warangal district, Suryapet taluk of

Nalgonda district, Medak taluk of Medak district, Ibrahimpatnam taluk of Mahboobnagar district, Narayanpet taluk of Mahboobnager district Warangal taluk of Warangal district.

- 15. (1) Papers relating to the Revenue Settlement & Resettlement of the Kurnool District.
 - (2) Resettlement of 'Kurnool Proper' submitting to Government. Proposals (B.P. No. 31, dated 27-1-1905.)
 - (3) Papers relating to Settlement of Poliams, Chittoor District.
- 16. (a) Taxation Enquiry Commission Report 1924 to 1925.
 - (b) do. 1953-54, Vol. I, II & III.
- 17. Hungry People & Empty Lands

By S. Chandrasekhar.

- 18. Land Reforms Defects in Agrarian Structure as Obstacles to Economic Development (U.N.)

 Development of Ecomomic Affairs, New York.
- 19. Agriculture Wages in India (Vol. I), 1952 Publication.
- 20. Studies in Rural Economy, 1953 Edition
- .. By R.V. Rao of Nizam College, Hyderabad (Orient Longmans).
- 21. Agricultural Development and Rural Reforms in Denmark.
- By F.S.K. Rablerong Consultant on Agricultural Improvement (Agriculture Division).
- 22. The Central Provinces Settlement Instructions (Reprint of 1953) Nagpur.
- 23. Indian Land System and Land Reforms
- .. By Bhowani Sen.
- 24. The Role of the Administrator, Past, Present and By A. D. Gorwala. Future.
- 25. Land Problems and Policies.

.. By V. Webster Johnson.

26. Land Reforms In India.

- .. H.D. Malaviya, Secretary, Economics and Political Research Dept.
- 27. India (A Journal) on the occasion of 12th Session of United Nations, Economic Commission for Asia and the Far East Bangalore/January 1956.
- 28. About India Issued by the Publication Division 1954.

29. Recent Trends in Agrarian Reforms

By Guru Charan Singh.

- 30. Agrarian Reforms in Western Countries, 1946 Edition.
- 31. Immediate Agrarian Problems, Hyderabad State.
- 32. Land Revenue Policy of the Indian Government published by order of the Governor-General of India in Council 1902 & 1920 Edition.
- 33. India at a Glance. A comprehensive reference book G. D. Binaui, Managing on India (Orient Longman's) Edition 1954. Editor T.V. Rama Rao.
- 34. Agricultura Indebtedness in H.E.H. Nizam's Dominions, 1930 Edition.

By S. M. Bharucha, Additional Revenue Secretary.

- 35. Indian Agricultural Atlas, 1952. Issued by the Economic and Statistical Association, Ministry of Food and Agriculture.
- Report of the Economic Enquiry Committee.
 Vols. I, II and III other collected papers 1931
 Edition (Madras).

Do. Vol. I, II & III ...1925 Do. Vol. I & II Appendices ...1930

37. Relief Measures in favour of Low-in come farmers in Europe. 1951 Edition.

By Dr. Sigmund
V. Fanam Dorfer M.A.
Vienna, Austria.

- 38. Irrigation in Madras Province. (In Southern By Smith. India the Kaveri, Kistna Godavari, 1856-Edition)
- The Bombay Land System and Village Administration n Six parts Civil Sens. 1932 Edition.

By D. S. Modak, M.A., LL B., J.P.A. I.R.O., F. S. Sc.

40. The Irrigation Works of India and Financial Results, 1880.

By Robert. B. Buckley.

41. Land System of British India (Vol. III). 1882 Edition. By B. H. Baden Powel C.I.E.

42. Irrigation in India (India of today Vol. II)
1923 Edition.

By D. Harris.

43. The Myth of Agricultural Prosperity

By B. S. Movinkurne.

44. A Note Book of Agricultural Facts and Figures Compiled, Fourth Edition, 1928 (Madras).

By R. Cecil Wood, M.A.

- 45. Small holding and irrigation—the new form of By Dr. S. E. Soskin settlement in Palestine. (1920)
- Hand book of Indian Agriculture, Second Edition, By Nitya Gopal 1907.
 Mukherji, M.A.
- 47. Fundamentals of Soil Science

 By C.E. Millar and L.M.

 Tinks M.A.
- 48. The India village community ... By P. H. Baden-Powel M.A.C.I.E.
- 49. The land system in South India between 800 A.D. By K.M. Gupta, M.A. and 1200 A.D.
- 50. Economic investigation in the Hyderabad State By S. Keshava Iyengar. 1929 to 30 vol. I—General Survey. 1931 Edition.
- 51. Three Treatises on Mirasi Right, 1852 Edition.

 By the late Francis W. Ellis, Collector of Madras. A.D. 1817,
 Lieutenant Colonel
 Black Burne.
- 52. The new land Revenue policy of the Bombay Govt. Taxation of Sub-Soil Water—(Bombay Publication 1884.)
- 53. Taluqdari settlement in Oudh

- .. By Rajkumar Sarvadhikari B.L. 1882.
- 54. Farm Crops and soils (Problems in Production, and management and conservation.)
- Edited by O.C. Adernold and Franklin A. Coff Man.
- 55. The Hyderabad Survey and Settlement Manual (Published by the authority 1952 Edition.)
- 56. Land Records Manual--Uttar Pradesh--Parts I & II 1955 edition.
- 57. The Uttar Pradesh Gaon Samaj Manual, 3rd edition 1956.
- 58. Tab Our Jub. (In Hindi)
- 59. U.P. from poverty in Rural India, 1933 edition. By D. Spencer Hatch.
- 60. (1) India. (A short cultural history).. .. By H. S. Rawlinson London-1937.
 - (2) India. (A journal on the occasion of 12th session of United Nations-Economic Commission for Asia and the far east, Bangalore January 1954.)
- 61. Glimpses of world History (Being further letters to By Jawaharlal Nehru. his daughter, written in prison, and containing

a rambling account of history for young people. Vol. II First published in 1935).

62. Land Rever ue Administration in India compiled.

By S. C. Roy M.A., Asst. Economics, Professor, published by Calcutta University 1915.

- 63. Report on the settlement of the Land Revenue of the Districts in Madras Province for Fasli 1948. (1938 to 1939) 1940 edition.
- .. By Sir Godfrey Hagden The Native races of the empire 64. K.C.M.G.
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REPORT OF THE

LAND REVENUE REFORMS COMMITTEE PART II-Volume (v)

बरमधेव नमने

Supplementary Minute signed and given by the members Sri J. Raghotham Reddy, Sri H. Sitarama Reddy and Sri D. V. Rao on 26-1-1959.

At the time of first settlement and subsequent revisions, whether in Andhra area or in Telanganz, the dry land assessment was fixed so as not to exceed 50% of the net income from land.

Since the days of the earlier settlements, there has been a positive gain in favour of ryots inasmuch as agricultural prices have moved up roughly 4 to 5 times the original figure, over a half-century.

As against this apparent advantage, there are several disadvantages to which the ryot is now exposed:—

- (i) The dry land has progressively deteriorated in quality because of continuous cropping and soil erosion.
- (ii) Since there has been an increase of irrigation, all manurial resources have been diverted away from dry lands, and in fact fertility itself is moving from dry to irrigated land through the medium of grasses and fodder like Jowar, straw, etc.
- (iii) With the increase of population, the area per person has come down; and with this development the taxable surplus has also fallen.
- (iv) Government waste lands have all been assigned, and forests have been denuded, with the result that the dry land 'owner is compelled to keep a part of his holding fallow, for the needs of his cattle which in earlier periods was met by Government waste land and forests.
- (v) Pests and diseases are a new factor, and their incidence is wholly unpredictable. Cortrol measures are not only costly, but quite often unreliable and even uneconomic at the present level of yields.

It is some times said that the standard of farming is higher to-day than before and there are special aids to higher production like improved seeds and fertilisers, etc. It is obvious that fertilisers are generally not used in dry land farming because of the uncertainty of rains. It is important to note that under drought conditions the fertilised field suffers much more than the unfertilised field. As regards improved seeds, the varieties are very few, except in cotton, and the coverage is almost insignificant. Improved implements are not common and even contour runding, that is to be carried at owner's cost is not yet common.

Very much is made of commercial crops grown in the dry lands, principally cotton and groundnut, and in Guntur, tobacco. Cotton may have a good price but it is paying a purchase tax of 1/2% in addition to assessment for land on which it is grown. Cotton is an industrial raw material and supports an industry which yields handsome contribution to the exchequer by way of taxes. Cotton depletes plant nutrients from deeper regions of soil, and these go in the form of cotton seed-cakes, to fertilise irrigated soils or to sustain milk production, and they rarely come back to dry land. Groundnut, again, pays a purchase tax of 2% besides enormous amounts of contribution as excise durty on oil, etc. It depletes plant food at least phosphoric acid. Large tracts of land that grew groundnut well, sometimes ago, have now become unfit for that crop. Similarly, dry land tobacco pays incredible amounts as excise duty.

This Committee's finding is that the incidence of the purchase tax on agricultural raw products levied on first purchase is shifted to the producer for the simple reason of proximity of the point of tax to the grower.

The total purchase tax collectable under present rates could not be exactly found out, but would, in no case, be less than 50% of the total dry land revenue, plus the dry component of wet land revenue.

It is true that inspite of all these, the rise in price alone would lessen the incidence of dry land revenue. It would require a very detailed study to arrive at the correct ratio that land revenue (excluding water rates) plus purchase-tax to-day bears to the net income of the dry land cultivator.

A very exhaustive and scientific enquiry into costs of production would be needed to arrive at this ratio even approximately. When allowance is made for all these, it is our rough guess that incidence today is not less than 20% of the net income, of which dry land revenue itself may represent about $12\frac{1}{2}\%$.

It would have been in the fitness of things to collect an agricultural income-tax, and the Committee would have had no difficulty in recommending such a course and agreeing with the proposals of the Taxation Enquiry Committee, if only the Government had not decided, as a matter of their social policy, the cutting down of all substantial holdings and thus progressively eliminate from the agricultural sector persons and institutions that make income which leaves a taxable surplus, according to present day income-tax standards. The Committee's decision not to have an agricultural income-tax in Andhra Pradesh is solely dicatated by the impracticability of such a tax or the possible insignificant yields from it, in view of the declared Land policy of the national and the State Governments in India.

Of all the taxes that go to swell the State's exchequer, Land Revenue and Income-tax are the only two direct taxes on people. It has been held by courts that Land Revenue represents the commuted value of Government's share in the produce, and the assessment is made by virtue of a 'prerogative' of Government. It has at the same time been conceded that Land Revenue is no longer a rent but a tax.

There is a very close analogy between the Income-tax and the Land Revenue inasmuch as in either of the cases, there is no direct quid pro quo or service by the State. The income is entirely due to one's own effort and enterprise. Under the Income-tax law, as at present, a person is totally exempt from tax if his income is below Rs. 3,600 annually and will be called upon to pay $12\frac{1}{2}\%$ of his net income as tax only if his income is of the order of Rs. 25,000 annually. The power of a Government to levy or alter land revenue is of the same category as the power to levy any other tax and therefore, as far as practicable, same principles need to be applied. In a country devoted to the principles of democratic socialism, and working towards the ideal of a Welfare State, there is no justification for levying a tax on the income (Land Revenue is based on net yield or income) of people living on the borderline of abject poverty and precarious existence.

When we use the term 'Land Revenue', we mean, dry land revenue and also the dry land component of wet rate on irrigated lands. The Irrigation cess or water rate is a return for the service rendered by the State in providing water. Wet rate not only as fixed in earlier settlements but also as recently determined for major projects and recommended by this Committee elsewhere does not provide for an adequate direct return on capital invested on projects and irrigation works. It has been the practice and the Committee has endorsed the same that the State should look to indirect revenue arising out of increased prosperity to make amends for this apparent loss on irrigation works.

The age old practice has been to put all yield from land revenue in the consolidated fund of the State and draw therefrom both for development and normal administration. Other taxes levied by the State like the sales-tax, excise duties, stamps, vehicle-tax etc., which form the bulk of the State's resources fall equally on all sections of the population,—Land-holders and others. It is but natural to expect that all services and general administration must be supported by these taxes, and land revenue should not be the main source to fall back upon. This is a tax exclusively paid by the land-holders despite their poverty, and as a tax is against modern canons of judicious taxation.

Whichever place the Committee visited and whichever land-holder it met, the most common representation was that agricultural services by the State were inadequate. Enough research information was not available. Extension was not efficient, plant protection methods were either not known or could not be practised due to some cause beyond the ryots' control, credit was neither prompt nor adequate and supplies of several materials and services were woefully below requirements. Each time the Committee talked about incidence of land revenue, the ryots talked back about the State's failure to help them farm better. Indeed, there was no witness that told the Committee that all was well on this front. Serious lacunae need to be filled in. The Committee has mentioned at length in appropriate places its own findings and recommendations regarding developmental activities of the State in heir relation to the tax paying capacity of the land-holder.

When in pursuance of certain social policies the State is encouraging the growth of small holdings and of peasants hardly capable of looking after themselves, the provision of research information, training facilities, proper extension and appropriate supplies of goods and services inevitably become increasingly the State's primary responsibility. This is more so when large gaps in knowledge exist in this State with regard to the growing of most of the crops in this region.

An extract from Arthur Lewis 'Theory of Economic Growth' appended to this report would show that 1% of the value of the gross agricultural production is the minimum that needs to be spent on agricultural research education and extension. While we are planning to double our agricultural production in the next seven years, it becomes obvious that the State's investment in this field must be commensurate with the results desired. The gross agricultural production in Andhra Pradesh is computed at 600 crores and doubling that in 7 years would mean an annual increase of 85 crores. Normally if our national income is to go up by that amount each year, the order of investment may be of 3 to 4 times that amount each year. is no doubt that the bulk of investment in agriculture will come from the ryots themselves. Yet the State's investment on research training and extension cannot be less than 1%. Indeed it will have to be more. In highly advanced countries, the State's investment of 2% has been considered very necessary to increase the agricultural output at the rate of 1% per year. The cost of research, education and extension for any given output would be naturally greater in India than in the West, primarily because of the greater number of producers involved. We are not exaggerating our requirements when we suggest that 6 crores annually is what is needed in the immediate future for organising these services. As against this the present expenditure (non-recoverable) in our State on Agriculture and Animal Husbandry is not more than 2 crores a year. Add to this the administrative cost of organising agricultural credit and Land Revenue collections, and we have a picture of all that is exclusively spent on agricultural community. The gap between the actual and the minimum requirements is very wide indeed.

In spite of the great urgency, most of the agricultural research schemes sanctioned by ICAR and the various Commodity Committees are not accepted by the State on the plea that State finances cannot bear the burden of a matching contribution. Sometime ago, there was a proposal from the Government of India to

subsidise plant protection equipment to the ryots to the extent of 50% if the State Government could equally share the burden. State Government did not do its bit and the proposal had to be dropped.

We have been unable to get an exact amount collected as Land Revenue (apart from water rate) but we presume it may be of the order of 5 to 6 crores. For the immediate future this amount well spent may satisfy our requirements of improved agricutural services. Should our future needs outstrip these resources it would be simple lenough to revise it upwards, and it can be justified, since if would be exclusively devoted to the economic welfare of the Community that is called upon to bear the burden. This would be far more palatable than asking the general tax-payer for expansion of agricultural services, or vice versa. That idea of financing agricultural improvement through a cess is not novel, inasmuch as all commodity committees function on this basis, and several times the proposal to devote the land revenue for local needs has been made from significantly high quarters. Some years ago, the Andhra Government also promised to waive land revenue in the case of persons paying less than Rs. 10 annually.

Even if this is done the purchase tax recently levied will still bring to the exchethe general dminissubstantial amounts from land-owners for and welfare schemes. There is the estate duty on agricultural land, and with increased economic activity and consequent prosperity, the resources of the State will progressively exp and. The acceptance of our proposal will strengthen the agricultural base of our economy and will most certainly lead to improvements in the progress towards adding to our National Income and raising the standards of living in the rural areas.

Even now the land-holders pay 13% and 19% over and above their settled land revenue as local and educational cess. The Committee has recommended elsewhere that the use of these funds for the whole community while only the agriculturist class pays it, is rather unfair and the injustice should be put right.

There are suggestions that the whole of the land revenue may be turned over to the local bodies for community work (Orissa Land Revenue Committee) and even the Taxation Enquiry Committee of 1953-54 has favoured allotting 'a fairly reasonable share of land revenue as is done at present by certain States' to the Local bodies. It is likely that when "democratic decentralisation" as contemplated in the Panchayat Samiti and Zilla Parishad Bill now before the Select Committee of the Legislatures is implemented, a part of the land revenue may be kept at their disposal for local works.

Even though we do not see any justification in levying land revenue on an average peasant's income we realise that this has the sanction of long usage, and it will not be financial prudence to give up a tax which the people are used to paying over ages. However, we suggest, that land revenue may be turned into a cess and be exclusively earmarked for the development of Agricultural services—Education, Research and Extension. While retaining the proceeds to the State, this satisfies the sacred principle that the poorest section should be exempt from a direct tax.

While the present level of expenditure on Agricultural and Animal Husbandry Department is of the order of 2 crores, the conversion of 6 crores of Land Revenue into a cess earmarked for Agricultural Education, Research and Extension would create a gap of 4 crores in general Revenues. This will have to be made good from other sources and how best this could be done will have to be separately studied and necessary measures adopted. However, if necessary effort is forthcoming and if agricultural production gets doubled or even substantially increased during the next seven years, the indirect revenues accruing out of this increased production and consequent prosperity will also go to make up this deficit.

What is very important and needs to be borne in mind is that in economising on Agricultural Department's expenditure we are very probably not even obtaining full return for our present outlay of 2 crores. Inadequate expenditure quite often leads to the waste of the little that is spent. We cannot too strongly emphasise the need to accept the principles we have recommended in this minute of ours. Obviously the level of expenditure can be reached only in course of time. However, attempt should be made to reach the objective early.

(Sd.) J. RAGHOTHAM REDDY, 26-1-1959. (Sd.) H. SITARAMA REDDY, 26-1-1959. (Sd.) D. V. RAO, 26-1-1959

